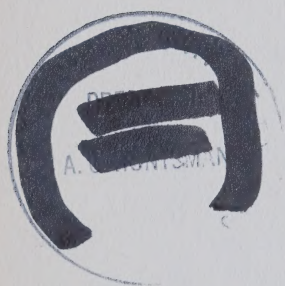


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# ANNUAL REPORT

OF THE

1871

# DEPARTMENT OF FISHERIES,

DOMINION OF CANADA,

FOR THE YEAR

1888.

---

Printed by Order of Parliament.

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OTTAWA:

PRINTED FOR THE QUEEN'S PRINTER AND CONTROLLER OF STATIONERY.

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1889.

# ANNUAL REPORT

## DEPARTMENT OF THE INTERIOR

### GEOLOGICAL SURVEY

1881

WASHINGTON



Published by the Government Printing Office, Washington, D.C.

Accepted for mailing at the post office at Washington, D.C., July 1, 1881.



*To His Excellency the Right Honorable Lord Stanley of Preston, Governor General of  
Canada, &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY :

The undersigned has the honor to present to Your Excellency the Annual Report  
of the Department of Fisheries for the year 1888.

All of which is respectfully submitted,

CHARLES H. TUPPER,

*Minister of Marine and Fisheries.*

OTTAWA, 30th March, 1889.





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## REPORT ON THE FISHERIES OF CANADA

FOR THE YEAR 1888.

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# FIFTH ANNUAL REPORT

## OF THE

# DEPUTY MINISTER OF FISHERIES

### FOR THE YEAR 1888.

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To the Honorable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—I have the honor to submit the fifth annual report of the Department of Fisheries. The financial statements are for the year ended 30th June, 1888, while the statistical tables and appendices extend to the 31st December of that year. The late date to which these statistics are compiled and the particulars necessary to complete them from remote districts where fishing is actively pursued until the very close of navigation, necessarily involve much labor and preclude the possibility of laying this report on the table of the House at the opening of Parliament.

#### CONDITION AND YIELD OF THE FISHERIES IN 1888.

The total value of the fisheries of Canada for the year 1888 is as follows:—

Nova Scotia .....	\$ 7,817,030 42
New Brunswick.....	2,941,863 05
British Columbia.....	1,902,195 50
Quebec .....	1,860,012 96
Ontario.....	1,839,839 09
Prince Edward Island.....	876,862 74
Manitoba and North-West Territories .....	180,677 00
<hr style="width: 100%;"/>	
Showing an aggregate of.....	<u>\$17,418,510 76</u>

As against \$18,386,103.75 for the year 1887, or a decrease of \$967,592.99,  
This deficiency is made up as follows:—

Nova Scotia .....	\$562,752 26
New Brunswick.....	617,643 84
Prince Edward Island.....	160,563 10
British Columbia .....	72,691 58
<hr style="width: 100%;"/>	

The other Provinces show an increase as follows :—

Quebec.....	\$ 86,445 53
Ontario. ....	308,819 36
Manitoba.....	51,593 00

The above amounts are exclusive of the consumption by Indians in British Columbia, which is given at \$3,257,500, and that of Manitoba and the North-West Territories also estimated at \$60,375.

#### DETAILS.

The following table shows the value of the principal kinds of commercial fishes, exceeding \$100,000:—

		Decrease.	Increase.
Cod .....	\$ 4,203,508	\$ 112,062	
Herring.....	2,354,234	89,042	
Salmon .....	1,907,400	99,878	
Lobsters .....	1,483,388	350,720	
Mackerel .....	981,659	489,665	
Haddock.....	948,732		\$ 81,720
Whitefish .....	702,324		248,759
Trout .....	510,061		19,275
Hake.....	486,540		248,408
Pollock .....	484,284		72,676
Fish oils.....	390,650	14,507	
Eels.....	321,348		155,294
Seal skins.....	311,517		49,493
Smelts.....	222,674	132,611	
Pickarel .....	194,458		52,563
Oyster.....	163,902	23,678	
Alewives. ....	128,541	18,817	
Halibut.....	125,405	45,746	
Sturgeon.....	111,116	7,827	
Sardines .....	128,541	405,279	

#### GENERAL REMARKS.

The above table shows at a glance what particular branch of the fishing industry prospered, failed, or remained stationary.

A decline of nearly half a million dollars is to be found in mackerel, one of our staple commercial fishes.

The deficit in the item of sardines (young herring) does not arise from any failure of the fishery, but from the fact that weir owners and factory men did not agree as to a selling price.

The decrease in lobsters was general: the value for the whole Maritime Provinces showing a deficit of over \$350,000. The smelt fishery also appears to be on the decline. Whitefish shows a large increase of a quarter of a million dollars over the previous year. Hake and pollock show a decided improvement, while the shortage of \$112,000 in cod must be held to be slight, owing to the fact that this staple fish yields nearly one-fourth of the whole catch of the fisheries of Canada.

## REMARKS RELATING TO THE FISHERIES OF:

### NOVA SCOTIA.

The total value of the fisheries in this Province falls short of last year's by \$562,752.26. This decline is pretty generally distributed over most of the principal items, and would seem to indicate that the shortage in the catch is not due to a scarcity of fish so much as to the unfavorable weather which prevailed during most of the fishing season.

The salmon fishery was about the same as last year's, but mackerel does not come to within one half the yield of 1887. Herring were plentiful and prices fair. Shad and alewives appear to be on the increase, while a slight shortage is noticeable in cod, undoubtedly due to stormy and unfavorable weather for boat fishing. A slight decrease was experienced in the catch of lobsters, occasioned by the curtailment of the fishing season, although the Inspector states that, these crustaceans were very plentiful on most of the coasts of Nova Scotia, and of a good size.

The Island of Cape Breton fared no better than Nova Scotia proper; its fisheries showing a decrease of \$72,300, generally attributable to the lingering of ice near shore until an advanced period in the fishing season, absence of bait at proper times and stormy weather which destroyed large numbers of nets.

Herring fishing was on the whole remunerative, while mackerel utterly failed. The Assistant Inspector lays great stress on the damage occasioned to this fishery by the use of purse seines, and he urgently recommends the utter prohibition of this mode of fishing.

In spite of adverse circumstances, cod fishing turned out pretty fair, while the lobster fishery was unremunerative.

### NEW BRUNSWICK.

The returns for this Province show a decrease of more than half a million dollars from the catch of 1887, which was itself half a million less than that of 1886. This heavy falling off is made up almost entirely of items of salmon, smelt, and lobsters.

The enormous drain hitherto put on these fisheries is showing its natural results, and it would be impossible to shut one's eyes to the fact that, this is entirely due to overfishing in the past. Still, with such facts staring us in the face, fisher-



men are constantly demanding exemption and pressing for additional privileges. Mackerel proved an utter failure, while a serious decline is noticed in the cod fishery.

#### BRITISH COLUMBIA.

The yield of the fisheries of this Province shows a decrease of \$76,691.50, principally due to the failure of salmon fishing on the Fraser River. Notwithstanding this large falling off, the average pack per cannery is nearly the same as that of previous years, while the total capital invested in the business shows an increase of \$163,687 as compared with 1887.

Having in view the fate which has befallen the once productive Sacramento and Columbia Rivers, and in order to guard against similar results in our own streams, it was found necessary to enact more stringent regulations for the protection of this valuable industry. The following Order in Council was therefore passed on 26th November, 1888:—

#### *Salmon Fishery.*

1. Fishing by means of nets or other apparatus without leases or licenses from the Minister of Marine and Fisheries is prohibited in all waters of the Province of British Columbia.

Provided always that Indians shall, at all times, have liberty to fish for the purpose of providing food for themselves but not for sale, barter or traffic, by any means other than with drift nets, or spearing.

2. Meshes of nets used for capturing salmon shall be at least six inches extension measure, and nothing shall be done to practically diminish their size.

3. (a). Drifting with salmon nets shall be confined to tidal waters, and no salmon net of any kind shall be used for salmon in fresh waters.

(b). Drift nets shall not be so used as to obstruct more than one-third of any river.

(c). Fishing for salmon shall be discontinued from six o'clock a.m. on Saturday, to six o'clock a.m. on the following Monday, and during such close time no nets or other fishing apparatus shall be set or used so as to impede the free course of fish, and all nets or other fishing apparatus set or used otherwise shall be deemed to be illegally set and shall be liable to be seized and forfeited, and the owner or owners or persons using the same shall be liable to the penalties and costs imposed by the Fisheries Act.

4. (a). Before any salmon net, fishing boat, or other fishing apparatus shall be used, the owner or persons interested in such net, fishing boat or fishing apparatus shall cause a memorandum in writing setting forth the name of the owner or person interested, the length of the net, boat or other fishing apparatus and its intended location, to be filed with the Inspector of Fisheries who, if no valid objection exists, may, in accordance with instructions from the Minister of Marine and

Fisheries, issue a fishery license for the same, and any net, fishing boat, or fishing apparatus used before such license has been obtained, and any net, fishing boat, or fishing apparatus used in excess or evasion of the description contained in such license shall be deemed to be illegal and liable to forfeiture, together with the fish caught therein; and the owner or person using the same shall be also subject to fine and costs under the Fisheries Act.

(b). All salmon nets and fishing boats shall have the name of the owner or owners legibly marked on two pieces of wood or metal attached to the same, and such mark shall be preserved on such nets or fishing boats during the fishing season in such a manner as to be visible without taking up the net or nets; and any net or fishing boat used without such mark shall be liable to forfeiture.

5. The Minister of Marine and Fisheries shall, from time to time, determine the number of boats, seines, or nets, or other fishing apparatus to be used in any of the waters of British Columbia.

#### *Trout Fishery.*

No one shall fish for, catch, or kill trout from the 15th October to the 15th March, both days inclusive, in each year.

Provided always that the Indians may, at any time, catch or kill trout for their own use only, but not for the purposes of sale or traffic.

It is to be hoped that, a strict enforcement of the above regulations will put a check to the decline experienced during the past two seasons and ensure the success and permanency of such a source of wealth to the Province of British Columbia.

The decrease in the fur seal catch of Behring Sea was principally due to the unsettled state of affairs by which several British schooners were deterred from entering these waters at the risk of seizure by the United States Revenue Cutters.

Circumstances again prevented this Department from continuing the experiments begun in 1886, with the view of locating the cod banks in the neighborhood of Vancouver and Queen Charlotte Island; but, it is satisfactory to know that, the attempts made by private parties in this direction were fairly successful and will eventually lead to preparations on a larger and more extensive scale for the pursuit of this fishery next season.

#### QUEBEC.

Though the season of 1888 proved to be one of almost unprecedented severity, the returns show a slight increase in the value of the gulf fisheries of \$9,000, and of \$77,000, in the inland districts; amounting to \$86,500. Cod was abundant; the surplus catch of 17,000 cwts., as compared with last year's would have been greater had harbors of refuge been provided on the coast of Gaspé especially, in order to permit of fishermen using larger boats, with which they could remain outside in

stormy weather. Under present circumstances, they are compelled to beach and haul their boats ashore at the approach of gales. Lobsters ran short, as elsewhere; seal hunting although not a success, was better than in 1887.

Mackerel fishing was good at the Magdalen Islands; the yield exceeding that of 1887 by 2,377 barrels.

The inland waters of the Province of Quebec, and the upper Ottawa show a surplus over last year of \$57,000, made up chiefly of bass, pickerel, eels, and tom-cods. The price received for these fish are considered very remunerative.

#### ONTARIO.

It is satisfactory to be able to report a continuance of the steady increase in the yield and value of the fisheries of this Province. The statistics show that, compared with 1887, the total value of the fisheries of Ontario amounted to \$1,839,869, or an increase of \$308,019, thus conclusively proving that the general condition and increasing productiveness of the fisheries is most satisfactory. It also demonstrates what judicious protection allied to a strict enforcement of the fishery laws will effect in the way of increasing the fish supply.

Whitefish and salmon trout—the staple fishing industry of the Province—continue to increase, as may be seen on reference to the tables annexed to this report.

In order to give more protection to the fisheries of Lake Huron, Georgian Bay and Lake Superior, the Department purchased the steamer "Cruiser" and placed her under command of Captain Alf. H. Holmes, with instructions to patrol these waters during the fishing season. A detailed report of Captain Holmes' operations will be found at Appendix No. 6, page 195.

#### PRINCE EDWARD ISLAND.

The yield of the fisheries of this Province shows a decrease of \$160,563 as compared with 1887. This decline is largely due to a falling off in the catch of mackerel, as well as to a deficit of \$173,547 in lobsters. Mackerel did not school as usual, and kept out to mid-sea. High prices did somewhat compensate for the poor catch, but not to a great extent. A deficit of over a half a million cans of lobsters represents the result of last season's operations: the consequence of over-fishing in the past and of constant opposition to all measures of restriction. On this point, it was stated in last year's report:—"With such a decline of the lobster fishery and the depreciation of the Prince Edward Island article on the English markets, it is to be apprehended that this branch of national industry which, if properly husbanded, would have continued for many years to yield remunerative results, will for a long time lead a struggling life, and perhaps be unable to resume its former prosperous state." The result of this year's operations show that these apprehensions were well founded. It now rests with the people themselves to say whether they are willing to accept the present state of things and face the inevitable ruin of this valuable source of revenue to the island.



The above remarks apply with equal force to the oyster fishery. It is to be regretted that in spite of constant warnings, efficient measures are not adopted to save our Canadian oysters, which are justly deemed the best in the world, from future annihilation. That the present close time of three months and a-half is inefficient for practical purposes is evident; and until measures are adopted with a view of putting a stop to raking during winter, the destruction and sale of under-sized oysters, the planting of exhausted beds, and a regular system of protection stringently enforced, this fishery is also doomed to speedy ruin. On this point, attention is called to the timely remarks made by Mr. Inspector Duvar, Appendix No. 4, page 129.

#### MANITOBA AND NORTH-WEST TERRITORIES.

The more the country develops the greater extension the fisheries of this Province attain. The returns for 1888, show a total value of \$180,677, being an increase of \$51,593 over 1887. This, of course, is exclusive of the consumption by the Indian population, which may be fairly estimated at 1,500,000 pounds of fish, and which, if added to the above figures would give an aggregate of all kinds of fish of over 5,000,000 pounds.

The catch of whitefish was, on the whole, very satisfactory, yielding nearly double the catch of last year. In other kinds of fish, such as pickerel, jackfish, sturgeon, tullibees, &c., there is also a noticeable increase over the yield of 1887.

The various close seasons were efficiently enforced and generally observed by white fishermen; but complaints are made regarding the slaughter by Indians who, under pretence of fishing for their own use during the breeding periods, deliberately violate the law by catching large quantities of fish at a time when others are precluded from doing so, concealing them and subsequently selling them to traders, thus defeating to a great extent the good accomplished by a stringent enforcement of the regulations. Until Indian agents are sufficiently convinced of the great injury such wanton abuses eventually entail upon Indians themselves so as to advise the latter to comply with the spirit as well as with the letter of the law; it is apprehended that very little good can be accomplished in the direction of protecting the fisheries of Manitoba and the North-West Territories.

## THE FISHERY LAWS OF THE DOMINION.

TABLE of Close Seasons in force on 31st December, 1888.

Kinds of Fish.	Ontario.	Quebec.	Nova Scotia.	New Brunswick.	P. E. Island.	Manitoba and N.-W. Ter.
Salmon (net fishing)....		Aug. 1 to May 1.	Aug. 15 to March 1.	Aug. 15 to March 1.		
Salmon (angling). ....		Sept. 1 to May 1.	Sept. 15 to Feb. 1.	Sept. 15 to Feb. 1.		
Salmon, Ristigouche R.		Aug. 15 to May 1.		Aug. 15 to May 1.		
Speckled Trout ( <i>Salvelinus Fontinalis</i> .)	Sept. 15 to May 1.	Oct. 1 to Jan. 1.	Oct. 1 to April 1.	Oct. 1 to April 1.	Oct. 1 to Dec. 1.	Oct. 1 to Jan. 1.
Large Grey Trout.		Oct. 15 to Dec. 1.	do ...	do ...		
Lunge, Winnish and Landlocked Salmon..						
Pickeral (Doré). ..	April 15 to May 15.	April 15 to May 15.				April 15 to May 15.
Bass and Maskinongé...	April 15 to June 15.	April 15 to June 15.				
Whitefish and Salmon Trout.	Nov. 1 to Nov. 30.					
Whitefish. ....		Nov. 10 to Dec. 1.				Oct. 5 to Nov. 10.
Sea Bass.....				March 1 to Oct. 1.		
Smelts. ....		April 1 to July 1.	April 1 to July 1.	April 1 to July 1.	April 1 to July 1.	
Lobsters ..		July 15 to Dec. 31.	July 1 to Dec. 31.	July 1 to Dec. 31.	July 15 to Dec. 31.	
			On Atlantic coast, from Cape Canso to boundary line, U.S., July 15 to Dec. 31, in remaining waters of Nova Scotia and New Brunswick.			
Sturgeon.....				Aug. 31 to May 1.		May 1 to June 15.
Oysters.....		June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.	

NOTE.—The following Regulations, applicable to the Province of British Columbia, were enacted by Order in Council, dated 26th Nov., 1888:—

1. Net fishing allowed only under licenses.
2. Salmon nets to have meshes of at least 6 inches extension measure.
3. Drift nets confined to tidal waters. No nets to bar more than one-third of any river. Fishing to be discontinued from 6 a.m. Saturday to 6 a.m. Monday.
4. The Minister of Marine and Fisheries to determine number of boats, seines or nets to be used on each stream.
5. The close season for trout is fixed from the 15th Oct. to 15th March.

## SYNOPSIS OF FISHERY LAWS.

Net fishing of any kind is prohibited in public waters, except under leases or licenses.  
The size of nets is regulated so as to prevent the killing of young fish. Nets cannot be set or seines used so as to bar channels or bays.

A general weekly close-time is provided, in addition to special close seasons.  
The use of explosive or poisonous substances, for catching or killing fish, is illegal.  
Mill dams must be provided with efficient fish passes. Models or drawings will be furnished by the Department on application.

The above enactments and close seasons are supplemented in special cases, under authority of the Fisheries Act, by a total prohibition of fishing for stated periods.

## BUILDING OF FISHWAYS.

Six new fishways, on the Rogers' patent model, were built on the following streams in Nova Scotia and New Brunswick :—

County.	River.	Mill-dam.
Yarmouth, N.S. ....	Head of Yarmouth Harbor.....	S. Killam's, at Milton.
do .....	Herring Brook.....	Bourque's.
do .....	do .....	Porter's.
Sunbury, N.B. ....	Oromocto River, North Branch.....	Hart's.
do .....	do .....	Treacy's Stream.
do .....	do South Branch.....	Smith's Mill.

## FISH BREEDING.

There are at present eleven hatcheries under control of the Dominion Government located as follows:—

Ontario—Newcastle.  
Sandwich.

Quebec—Magog.  
Tadoussac.  
Gaspé.  
Ristigouche.

New Brunswick—Miramichi.  
St. John River.  
British Columbia—Fraser River.

Nova Scotia—Bedford.  
Sydney.

The Dunk River hatchery, Prince Edward Island, was closed this season, owing to the dam having been carried away.

The total number of young fish of various kinds hatched out, and distributed from these hatcheries during the season of 1888, from the crop of 1887, amounted to 88,109,000, and the total quantity of ova laid down during the year was 98,214,000.

The kinds of fish at present hatched include the Atlantic and Pacific salmon, the whitefish and salmon trout of the great lakes of Ontario, the pickerel (*dore*) and the speckled or brook trout.

Complete details and statements connected with fish breeding operations during the season of 1888 will be found in Part II of this report.



## FISHING BOUNTIES.

The total number of fishing bounty claims received in 1887 was 15,576 against 14,812 in 1886. Of this number 182 were rejected for non-compliance with the regulations.

The total number of claims paid during the year 1887 was 15,416, an increase of 516 as compared with the year 1886.

The total amount of bounties paid to vessels and boats was \$163,757.92, an increase of \$2,854.33 over 1886.

The number of vessels which received bounty in 1887 was 812, with a tonnage of 30,969 tons, an increase of 21 vessels and a tonnage of 165 tons more than in 1886.

The number of boats claiming bounty was 14,605 as against 14,109 in 1886, and the number of fishermen who received bounty was 28,252, an increase of 496 boats and 806 fishermen as compared with the previous year.

For details of payments to vessels and boats see Appendix No. 1, page 1.

## EXPENDITURE.

In view of the particulars contained in the Auditor General's Report, respecting the receipts and expenditure of the Public Service, it has been considered unnecessary to continue to publish the accounts in detail hitherto appended, and which have this year been replaced by a summary of the receipts and expenditure under the different heads on account of the services under the control of the Department.

The total expenditure for the fisheries service during the financial year, ending 30th June, 1888, amounted to \$377,487.59, including fisheries protection service, expenditure to 31st December, 1888 (see page 8 of "*The Protection Service Report.*")

General service.....	\$95,544 65
Fish—breeding .....	41,082 04
Fisheries protection service.....	77,102 98
Fishing Bounty for 1887 .....	163,757 92
<hr/>	
Total .....	\$377,487 59
<hr/>	

This Expenditure is sub-divided as follows:—

<i>Ontario.</i>		\$ cts.	\$ cts.
Salaries of officers .....		9,870 98	
Disbursements of officers .....		8,855 48	
Miscellaneous .....		1,134 06	
<b>Total</b> .....			19,860 52
<i>Quebec.</i>			
Salaries of officers .....		8,480 50	
Disbursements of officers .....		4,813 13	
Miscellaneous .....		169 74	
<b>Total</b> .....			13,463 37
<i>Nova Scotia.</i>			
Salaries of officers .....		13,839 50	
Disbursements of officers .....		4,391 33	
Miscellaneous .....		77 19	
<b>Total</b> .....			18,308 02
<i>New Brunswick.</i>			
Salaries of officers .....		14,051 79	
Disbursements of officers .....		6,424 62	
Miscellaneous .....		56 79	
<b>Total</b> .....			20,533 20
<i>Prince Edward Island.</i>			
Salaries of officers .....		2,987 50	
Disbursements of officers .....		415 01	
<b>Total</b> .....			3,402 51
<i>British Columbia.</i>			
Salaries of officers .....		2,415 55	
Disbursements of officers .....		1,107 65	
Miscellaneous .....		138 63	
<b>Total</b> .....			3,661 83
<i>Manitoba.</i>			
Salaries of officers .....		1,564 33	
Disbursements of officers .....		1,241 75	
Miscellaneous .....		10 56	
<b>Total</b> .....			2,816 64
<b>Total</b> .....			82,046 09
<b>MISCELLANEOUS.</b>			
Legal and incidental expenses .....		333 09	
Canadian fisheries exhibits .....		1,759 22	
Expenditure in connection with the distribution of fishing bounty .....		6,348 56	
Building fishways, La Have River .....		25 35	
Removing obstructions to ascent of fish on Grand River .....		1,034 15	
Lobster and Oyster Commission .....		3,998 19	
<b>Total</b> .....			13,498 56
<b>Grand Total</b> .....			95,544 65

## FISH BREEDING.

		\$ cts.	\$ cts.
<i>Newcastle Hatchery.</i>			
Salaries .....		1,390 50	
Miscellaneous expenditure .....		4,485 92	
Total .....			5,876 42
<i>Sandwich Hatchery.</i>			
Salaries .....		766 66	
Miscellaneous expenditure .....		2,885 92	
Total .....			3,652 58
<i>Tadoussac Hatchery.</i>			
Salaries .....		984 00	
Miscellaneous expenditure .....		1,404 00	
Total .....			2,388 00
<i>Gaspé Hatchery.</i>			
Salaries .....		600 00	
Miscellaneous expenditure .....		1,270 96	
Total .....			1,870 96
<i>Magog Hatchery.</i>			
Salaries .....		600 00	
Miscellaneous expenditure .....		126 05	
Total .....			726 05
<i>Ristigouche Hatchery.</i>			
Salaries .....		960 00	
Miscellaneous expenditure .....		2,976 12	
Total .....			3,936 12
<i>Bedford Hatchery.</i>			
Salaries .....		1,300 00	
Miscellaneous expenditure .....		2,556 07	
Total .....			3,856 07
<i>Sydney Hatchery.</i>			
Salaries .....		860 00	
Miscellaneous expenditure .....		2,134 20	
Total .....			2,994 20
<i>Miramichi Hatchery.</i>			
Salaries .....		500 00	
Miscellaneous expenditure .....		1,176 72	
Total .....			1,676 72



FISH BREEDING—*Concluded.*

<i>St. John River Hatchery.</i>		\$ cts.	\$ cts.
Salaries.....		600 00	
Miscellaneous expenditure.....		1,164 87	
Total.....			1,764 87
<i>Dunk River Hatchery.</i>			
Salaries.....		400 00	
Miscellaneous expenditure.....		355 32	
Total.....			755 32
<i>Fraser River Hatchery.</i>			
Salaries.....		2,100 00	
Miscellaneous expenditure.....		3,533 90	
Total.....			5,633 90
GENERAL ACCOUNT.			
Salaries.....		2,250 00	
Miscellaneous expenditure.....		3,680 83	
Total.....			5,930 83
Total, Fish Breeding.....			41,082 04

## RECEIPTS.

STATEMENT of Fisheries Revenue paid to the credit of the Receiver-General of Canada, for the Fiscal Year ended 30th June, 1888.

	\$ cts.	\$ cts.
Ontario—		
Rents, license fees and fines.....	18,251 25	
Quebec—		
Rents, license fees and fines.....	5,394 99	
Nova Scotia—		
Fishery licenses and fines.....	2,905 44	
New Brunswick—		
Fishery licenses and fines.....	7,625 64	
British Columbia—		
Rents, license fees and fines.....	6,934 55	
Manitoba—		
Fishery licenses.....	819 25	
Total.....		42,931 12

# RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats; Value of Fishing Material, etc., and the Number of Fishermen in the different Provinces of the Dominion, for the Year 1888.

Provinces.	Number of Fishermen.	Vessels and Tugs.		Boats.		Gill Nets and Seines.		Value of Trap and Pound Nets, Weirs, Brush and Bel Fisheries.	Value of Lobster Factories, Traps, etc., etc., etc.	Approximate Value of the Freezers and other Fixtures, not itemized.	Total Value.	Remarks
		Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
Nova Scotia ....	28,107	690	29,125	1,293,368	13,415	309,707	3,811,290	678,352	197,730	358,387	3,229,845	See page 89.
New Brunswick.	9,840	153	2,759	82,940	4,710	177,708	334,628	315,549	139,350	130,103	988,007	do 119.
P. E. Island .....	4,379	70	2,505	77,100	1,174	40,380	74,185	53,971	800	152,629	379,890	do 140.
Quebec .....	*9,432	115	5,550	242,150	5,355	161,377	216,666	167,121	39,440	60,433	670,521	do 169-186.
Ontario .....	3,303	57	1,142	135,600	1,473	99,739	925,374	221,629	96,412	.....	558,620	do 216.
British Columbia	5,940	52	2,166	196,400	1,257	71,042	230,655	158,370	.....	.....	1,036,132	do 215.
Total .....	61,001	1,137	43,247	2,017,558	27,384	859,953	5,592,808	1,594,992	473,732	701,552	6,863,005	

\* Does not include fishermen above Quebec.

## GENERAL RECAPITULATION

Of the Yield and Value of the Fisheries in the Dominion of Canada, for the Years 1887 and 1888.

Kinds of Fish.		1887.		1888.	
		Quantity.	Value.	Quantity.	Value.
			\$ cts.		\$ cts.
Cod	Cwt.	1,078,355	4,313,420 00	1,050,847	4,203,388 00
Boneless Cod	Lbs.	52,500	2,150 00	3,000	120 00
Herring, pickled	Brls.	349,909	1,574,590 50	341,077	1,364,308 00
do smoked	Boxes.	1,580,558	395,139 50	1,497,890	373,272 50
do frozen	No.	21,986,700	109,933 50	22,305,500	133,833 00
do fresh	Lbs.	7,354,497	363,612 85	9,653,308	482,821 40
Lobsters, preserved, in cans	Lbs.	12,185,687	1,462,282 44	9,597,773	1,207,033 80
do in shell, alive, &c.	Tons.	3 650	371,826 24	6,288	276,354 76
Salmon, pickled	Brls.	9,041 <sup>1</sup>	126,828 00	8,464	109,978 00
do fresh	Lbs.	4,568,383	688,314 90	4,640,660	680,432 00
do preserved, in cans	Lbs.	9,842,795	1,182,539 73	8,878,156	1,110,874 80
do smoked	Lbs.	54,187	9,595 40	30,576	6,115 20
Mackerel, preserved, in cans	Lbs.	151,041	18,124 92	63,564	7,883 01
do fresh	Lbs.	337,600	17,880 00	540,600	32,436 00
do pickled	Lbs.	129,610	1,435,320 00	62,756	941,340 00
Haddock	Cwt.	216,003	864,012 00	237,183	948,732 00
Hake	Cwt.	59,533	238,132 00	121,635	486,540 00
Pollock	Cwt.	102,902	411,608 00	121,071	484,284 00
Trout	Lbs.	4,520,165	452,016 50	4,499,860	449,381 00
do pickled	Brls.	3,867	38,670 00	6,068	60,680 00
Whitefish, pickled	Brls.	5,2 2 <sup>1</sup>	43,852 00	7,663	75,630 00
do fresh	Lbs.	5,800,356	409,713 88	8,677,756	626,694 28
Smelt	Lbs.	5,923,418	355,285 08	3,723,772	222,674 66
Sardines	Hogsheads.	53,334	533,830 00	16,941 <sup>1</sup>	104,428 00
Oysters	Brls.	61,300	187,580 00	56,234	163,902 00
Hake Sounds	Lbs.	81,163	81,163 00	103,557	103,557 00
Cod, Tongues and Sounds	Lbs.	2,489	24,886 60	16,606	21,560 00
Alewives	Brls.	32,747	147,358 50	28,565	128,541 50
Shad	Lbs.	743,612	44,016 72	514,251	30,855 06
do pickled	Brls.	8,165	73,485 00	3,950	39,500 00
Eels, do	Brls.	6,147	61,470 00	22,594	206,570 00
do	Lbs.	1,601,108	104,584 48	1,590,145	114,778 70
Halibut	Lbs.	1,711,519	171,151 90	1,368,808	125,405 80
Sturgeon	Lbs.	2,014,082	118,943 90	1,892,518	111,116 28
Mackinongé	Lbs.	652,185	39,131 10	786,981	47,218 86
Bass	Lbs.	837,652	50,259 12	1,034,846	62,090 76
Pickarel	Lbs.	2,417,549	141,895 24	3,484,416	194,458 96
Pike	Lbs.	1,161,969	50,742 50	1,500,878	55,333 90
Winninish	Lbs.	55,000	3,300 00	100,000	6,000 00
Bar and Whitefish	Dozen.	5,001	6,251 25		
Tom Cod or Frost Fish	Lbs.	1,060,980	31,829 40	1,299,895	51,995 80
Flounders	Lbs.	122,470	12,247 00	83,650	8,365 00
Squid	Brls.	31,024	124,096 00	12,445	49,784 00
Oolachans, pickled	Brls.	115	1,380 00	282	2,840 00
do fresh	Lbs.	25,500	1,530 00	20,200	2,020 00
do smoked	Lbs.	350	700 00	200	400 00
Clams			3,500 00		3,000 00
Fur Seal Skins	No.	33,800	236,600 00	27,983	279,830 00
Hair do	No.	26,299	25,424 00	32,562	31,687 00
Sea Otter Skins	No.	75	4,500 00	100	7,500 00
Porpoise Skins	No.	656	2,640 00	455	1,847 00
Fish Oils	Galls	995,509	405,157 60	960,541	390,650 90
Coarse and Mixed Fish	Brls.	31,828	158,828 77	40 202	208,851 63
Fish used as Bait	Brls.	160,480	229,170 00	159,391	231,586 50
Fish used as Manure	Brls.	139,157	70,763 50	126,449	63,224 50
Guano	Tons.	1,305	34,125 00	1,158	28,950 00

\* Boxes.



## GENERAL RECAPITULATION

Of the Yield and Value of the Fisheries in the Dominion of Canada, &c.—*Concluded.*

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Crabs and Prawns, in B. C. ....		4,500 00		7,500 00
Fish, assorted, in B. C. ....	712,600	42,600 00		45,500 00
do Halifax markets .....		42,400 00		
Fish for home consumption not included in Returns. ....		229,225 71		203,235 20
Total .....		18 386,103 75		17,418,510 76
Decrease .....				967,592 99

## RECAPITULATION.

PROVINCES.	Value.		Decrease.	Increase.
	1887.	1888.		
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
NOVA SCOTIA .....	8,379,782 68	7,817,030 42	562,752 26	
NEW BRUNSWICK .....	3,559,506 89	2,941,863 05	617,643 84	
QUEBEC .....	1,773,567 42	1,860,912 96		86,445 53
PRINCE EDWARD ISLAND. ....	1,037,425 94	876,862 74	160,563 20	
BRITISH COLUMBIA .....	1,974,887 08	1,904,195 50	72,691 58	
ONTARIO .....	1,531,849 73	1,839,869 09		308,019 36
MANITOBA AND NORTH-WEST TERRITORIES.	129,084 00	181,677 00		51,593 00
Totals .....	18,386,103 75	17,418,510 76	1,413,650 78	446,057 89
Decrease .....			967,592 99	

## COMPARATIVE STATEMENT

Of Production in each Branch of the Fisheries in the respective Provinces of the Dominion of Canada, in 1887 and 1888.

## PROVINCE OF NOVA SCOTIA.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Salmon .....	Brls. 3,652	58,592 00	3,236	51,776 00
do fresh .....	Lbs. 495,350	99,070 00	477,214	95,442 80
do smoked .....	Lbs. 13,837	2,767 40	10,176	2,035 20
do preserved .....	Cans. 34,766	5,214 90	33,210	4,981 50
Mackerel .....	Brls. 91,348	1,096,176 00	45,009	675,135 00
do preserved .....	Cans. 58,163	6,979 56	20,688	2,482 56
do fresh .....	Lbs. 357,600	17,880 00	540,600	32,436 00
Herring .....	Brls. 181,146	815,157 00	175,285	701,140 00
do smoked .....	Boxes. 85,910	21,477 50	33,000	8,250 00
do frozen or fresh .....	Lbs. ....	.....	3,120	312 00
Alewives .....	Brls. 16,290	73,305 00	14,841	66,784 50
do smoked .....	No. 120,000	960 00	100,000	800 00
Cod, dried .....	Cwt. 794,309	3,177,236 00	753,459	3,013,836 00
do boneless .....	Lbs. 50,000	2,000 00	3,000	120 00
Cod Tongues and Sounds .....	Brls. 1,398	13,980 00	16,029	15,790 00
Haddock .....	Cwt. 200,007	800,028 00	216,505	866,020 00
Pollock .....	Cwt. 72,490	289,960 00	84,609	338,436 00
Hake .....	Cwt. 20,023	80,092 00	77,699	310,796 00
do Sounds .....	Lbs. 43,626	43,626 00	68,580	68,580 00
Finnan Haddies .....	Lbs. 127,000	5,080 00	49,000	1,960 00
Halibut .....	Lbs. 1,184,288	118,428 80	991,690	99,169 00
Shad .....	Brls. 1,300	11,700 00	765	7,650 00
Bass .....	Lbs. 15,065	903 90	23,690	1,421 40
Trout .....	Lbs. 155,469	15,546 90	161,522	16,152 20
Squid .....	Brls. 30,320	121,280 00	12,268	49,072 00
Smelt .....	Lbs. 463,672	27,820 32	491,138	29,468 28
Eels .....	Brls. 3,740	37,400 00	4,379	43,790 00
Oysters .....	Brls. 1,716	5,148 00	1,589	4,767 00
Lobsters, preserved .....	Cans. 6,688,923	802,670 76	5,756,891	690,826 92
do shipped fresh, alive, &c. ....	Tons. ....	262,326 24	4,340	217,914 76
Fish Oils .....	Galls. 483,366	193,346 40	511,557	204,542 80
Guano .....	Tons. 579	14,475 00	893	22,325 00
Fish used as bait .....	Brls. 65,014	97,521 00	72,434	108,661 00
do manure .....	Brls. 28,570	14,285 00	26,509	13,254 50
Amount sold in Halifax market .....	.....	42,400 00	.....	45,500 00
Home Consumption of various coun- ties, as per return .....	.....	4,949 00	.....	5,412 00
Total .....	.....	8,379,782 68	.....	7,817,030 42
Decrease in 1888 .....	.....	.....	.....	562,752 26

## COMPARATIVE STATEMENT

Of Productions in each Branch of Fisheries, &c.—*Continued.*

## PROVINCE OF NEW BRUNSWICK.

Kinds of Fish.		1887.		1888.	
		Quantity.	Value.	Quantity.	Value.
			\$ cts.		\$ cts.
Codfish.....	Cwt.	93,524	374,098 00	88,695	346,780 00
Herring.....	Brls	82,819	372,685 50	95,225	380,900 00
do smoked.....	Boxes	1,478,998	369,749 00	1,448,250	362,062 50
do frozen.....	No.	21,986,700	109,933 50	22,305,500	133,833 00
Mackerel.....	Brls.	3,607	43,284 00	2,094	31,410 00
do preserved.....	Lbs.	44,278	5,313 36	8,515	1,277 25
Haddock.....	Cwt.	12,706	50,824 00	18,226	72,904 00
Pollock.....	Cwt.	30,412	121,648 00	36,462	145,848 00
Hake.....	Cwt.	31,277	125,108 00	31,476	125,904 00
Halibut.....	Lbs.	50,234	5,023 40	17,970	1,797 00
Salmon, pickled.....	Brls.	150	2,400 00	98	1,568 00
do fresh, in ice.....	Lbs.	1,312,610	262,522 00	1,186,740	237,348 00
do preserved, in cans.....	Lbs.	3,597	539 55	11,002	1,650 30
do smoked.....	Lbs.	9,300	1,860 00	7,000	1,400 00
Alewives.....	Brls.	15,876	71,442 00	12,951	58,279 50
Trout.....	Lbs.	71,765	7,176 50	53,725	5,372 50
Smelt.....	Lbs.	5,366,321	321,979 26	3,149,468	188,968 08
Shad.....	Brls.	6,865	61,785 00	3,185	31,850 00
Eels.....	Brls.	2,255	22,560 00	16,185	161,850 00
Sardines.....	Hogsheads	53,094	530,940 00	15,963	95,778 00
Bass.....	Lbs.	104,779	6,286 74	151,827	9,109 62
Pickarel.....	Lbs.	105,400	6,324 00	132,200	7,932 00
Perch.....	Lbs.	22,300	689 00	45,500	1,365 00
Oysters.....	Brls.	23,198	69,588 00	16,384	49,152 00
Lobsters, preserved.....	Cans	2,630,559	315,667 08	1,843,368	276,505 20
do.....	Tons	3,650	109,500 00	1,948	58,440 00
Cod Tongues and Sounds.....	Brls.	76	760 00	17	170 00
Hake Sounds.....	Lbs.	37,537	37,537 00	34,977	34,977 00
Fish Oil.....	Galls.	118,369	47,347 60	90,692	36,276 80
Fish Guano.....	Tons.	136	3,400 00	265	6,625 00
Fish used as Manure.....	Brls.	22,145	11,072 50	25,100	12,550 00
do Bait.....	Brls.	39,069	58,603 50	30,605	45,907 50
Squid.....	Brls.	704	2,816 00	178	712 00
Frost Fish.....	Lbs.	560,980	16,829 40	174,895	6,995 80
Flounders.....	Lbs.	122,470	12,247 00	83,650	8,365 00
<b>Total</b> .....			<b>3,559,506 89</b>		<b>2,941,863 05</b>
<b>Decrease, in 1888.</b> .....					<b>617,643 84</b>



## COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

## PROVINCE OF PRINCE EDWARD ISLAND.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Cod..... Cwt.	26,432	105,688 00	39,062	156,248 00
do boneless..... Lbs.	2,500	1,500 00		
Herring..... Brls.	38,874	174,933 00	32,883	131,532 00
do smoked..... Boxes	90	22 50		
Mackerel..... Brls.	21,027	288,324 00	12,648	189,720 00
do preserved..... Cans.	48,600	5,832 00	34,380	4,123 20
Haddock..... Lbs.	78,300	3,132 00	92,600	3,704 00
Hake..... Cwt.	8,233	32,932 00	12,460	49,840 00
Salmon, fresh..... Lbs.	4,080	812 50	1,563	312 60
Alewives..... Brls.	367	1,651 00	595	2,677 50
Halibut..... Lbs.	9,650	965 00	8,700	870 00
Bass..... Lbs.			700	42 00
Trout..... Lbs.	75,200	7,520 00	74,900	7,480 00
Smelt..... Lbs.	89,425	5,365 50		
Eels..... Lbs.	212,950	21,295 00	1,937	19,370 00
Oysters..... Brls.	36,443	109,344 00	33,861	107,583 00
Lobsters preserved in cans..... Lbs.	2,009 107	241,092 84	1,446,227	173,547 24
Cod and hake sounds..... Lbs.	12,332	616 60	168	1,680 00
Fish oils..... Galls.	17,925	7,120 00	18,333	7,333 20
Manure..... Tons.	2,370	2,370 00	11,580	5,790 00
Guano..... Tons.	530	13,250 00		
Fresh fish for consumption..... Lbs.		15,000 00		15,000 00
Total.....		1,037,425 94		876,862 74
Decrease in 1888.....				160,563 10

## COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

## PROVINCE OF QUEBEC.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Cod..... Cwt.	164,000	656,400 00	171,631	686,524 00
Herring, pickled..... Brls.	31,607	142,231 50	30,569	122,276 00
do smoked..... Boxes.	9,762	2,440 50	8,640	2,160 00
Mackerel..... Brls.	628	7,536 00	3,005	45,075 00
Haddock..... Cwt.	1,237	4,948 00	1,036	4,144 00
Halibut..... Lbs.	81,347	8,134 70	104,948	10,494 80
Salmon, pickled..... Brls.	770½	12,328 00	889	14,224 00
do fresh..... Lbs.	529,763	103,250 90	498,143	99,628 60
do preserved, in cans..... Lbs.	8,448	1,267 20		
Shad..... Lbs.	743,612	44,016 72	514,251	30,855 06
Eels..... Lbs.	1,348,348	80,900 88	1,490,295	89,417 70
do pickled..... Brls.	152	1,520 00	93	930 00
Sardines..... Brls.	960	2,880 00	2,780	8,340 00
Sturgeon..... Brls.	323	1,615 00		
do..... Lbs.	475,400	28,884 00	584,320	35,053 20
Trout..... Lbs.	530,760	53,076 00	538,550	53,855 00
do..... Brls.	153	1,530 00	161	1,610 00
Winninich..... Lbs.	55,000	3,000 00	100,000	6,000 00
Bar and Whitefish..... Doz.	5,001	6,251 25		
Whitefish..... Lbs.	75,730	6,053 40	293,472	23,477 76
Maskinongé..... Lbs.	99,780	5,986 80	136,160	8,169 60
Bass..... Lbs.	134,479	8,068 74	186,775	11,206 50
Pickarel..... Lbs.	473,583	28,408 98	655,465	39,327 90
Pike..... Lbs.	366,650	18,332 50	308,530	19,426 50
Tom Cod..... Lbs.	500,000	15,000 00	*75,000	45,000 00
Cod Tongues and Sounds..... Brls.	953	9,530 00	392	3,920 00
Lobsters, canned..... Lbs.	857,098	102,851 76	551,287	66,154 44
Small and Mixed Fish..... Brls.	20,037	86,995 50	24,487	104,412 00
Seal Skins..... No.	22,799	22,799 00	29,062	29,062 00
Porpoise Skins..... No.	656	2,640 00	455	1,847 00
Fish Oils..... Galls.	268,109	107,243 60	275,814	110,325 60
Fish used as bait and manure..... Brls.	134,769	116,081 50	114,612	108,658 00
Guano..... Tons.	60	3,000 00		
Smelts..... Lbs.	4,000	120 00	75,166	3,768 30
Fish used as local consumption..... Brls.	19,485	77,940 00	18,670	74,680 00
Total.....		1,773,567 43		1,860,012 96
Increase.....				86,445 53

\* Bushels.

## COMPARATIVE STATEMENT

Of Production in each Branch of Fisheries, &c.—*Continued.*

## PROVINCE OF ONTARIO.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Whitefish..... Brls.	2,748	27,480 00	4,287	42,870 00
do..... Lbs.	3,914,156	313,132 48	6,134,244	490,739 52
Salmon Trout..... Brls.	3,714	37,140 00	5,907	59,070 00
do..... Lbs.	3,613,471	363,147 10	3,650,563	365,056 30
Herring..... Brls.	15,463	69,583 50	7,115	28,460 00
do..... Lbs.	7,148,897	357,444 85	9,527,288	476,364 40
Maskinongé..... Lbs.	552,405	33,144 30	650,821	39,049 26
Bass..... Lbs.	583,339	34,999 74	671,854	40,311 24
Pickrel..... Lbs.	1,689,071	101,344 26	2,209,901	132,594 06
Pike..... Lbs.	484,240	24,212 00	455,348	22,767 40
Sturgeon..... Lbs.	1,221,082	73,264 92	1,064,818	61,889 08
Eels..... Lbs.	39,810	2,388 60	99,850	5,991 00
Coarse Fish..... Lbs.	2,107,709	63,231 27	2,152,121	64,563 63
Fish for Home Consumption..... Lbs.	1,044,557	31,336 71	271,440	8,143 20
Total.....		1,531,849 73		1,839,869 09
Increase in 1888.....				308,019 36

APPROXIMATE Yield and Value of the Fisheries for the Years 1887 and 1888.

## MANITOBA AND NORTH-WEST TERRITORIES.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts.
Whitefish, fresh..... Lbs.	1,810,470	90,523 00	2,249,540	112,477 00
do salt..... Brls.	2,484	16,372 00	3,276	32,760 00
Pickrel (Doré)..... Lbs.	144,495	5,818 00	486,850	14,605 00
Pike (Jackfish)..... Lbs.	311,079	8,198 00	657,000	13,140 00
Sturgeon..... Lbs.	4,000	240 00	27,980	1,399 00
Perch..... Lbs.	88,074	4,612 00		
Trout..... Lbs.			12,100	605 00
Tullibee..... Lbs.	18,733	657 00	273,000	2,730 00
Mixed fish..... Lbs.	120,983	2,664 00	286,580	2,961 00
Total.....		129,084 00		180,677 00
Increase in 1888.....				51,593 00



## COMPARATIVE STATEMENT

Of the Production in each Branch of Fisheries, &c.—*Continued.*

## PROVINCE OF BRITISH COLUMBIA.

Kinds of Fish.	1887.		1888.	
	Quantity.	Value.	Quantity.	Value.
		\$ cts.		\$ cts
Salmon.....	Brls. 4,459	53,508 00	4,241	42,410 00
do fresh.....	Lbs. 2,226,600	222,660 00	2,477,000	247,700 00
do preserved, in cans.....	Lbs. 9,795,984	1,175,518 08	8,833,944	1,104,243 00
do smoked.....	Lbs. 31,050	4,968 00	13,400	2,680 00
Herring, fresh.....	Lbs. 205,600	6,168 00	122,900	6,145 00
do smoked.....	Lbs. 14,500	1,450 00	8,000	800 00
Trout, fresh.....	Lbs. 55,500	5,550 00	8,500	850 00
Sturgeon.....	Lbs. 249,000	14,940 00	215,500	10,775 00
Skil, salted.....	Brls. ....	.....	484	8,712 00
Clams.....	.....	3,500 00	.....	3,000 00
Halibut, fresh.....	Lbs. 386,000	38,600 00	229,500	11,475 00
do smoked.....	Lbs. ....	.....	16,000	1,600 00
Oysters.....	Sack. ....	3,500 00	2,400	2,400 00
Oolachans, pickled.....	Lbs. 23,000	1,380 00	284	2,820 00
do smoked.....	Lbs. 350	700 00	200	40 00
do fresh.....	Lbs. 25,500	1,530 00	20,200	2,020 00
Fur Seal Skins.....	No. 33,800	236,600 00	27,983	279,830 00
Hair do.....	No. 3,500	2,625 00	3,500	2,625 00
Sea Otter Skins.....	No. 75	4,500 00	100	7,500 00
Walrus.....	No. ....	.....	21	373 00
Fish Oil.....	Galls. 107,840	50,090 00	64,345	32,172 50
Crabs and Prawns.....	.....	4,500 00	.....	7,500 00
Sardines.....	Lbs. ....	.....	3,100	310 00
Smelt, fresh.....	Lbs. ....	.....	8,000	480 00
Assorted or Mixed Fish.....	Lbs. 712,000	42,600 00	310,000	23,730 00
Fish for home consumption, Chinese laborers.....	.....	100,000 00	.....	100,000 00
Total.....	.....	1,974,887 08	.....	1,902,195 50
Decrease.....	.....	.....	.....	72,691 58

TABLE showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1888, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

8 D

Years.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-West Territories.	Total for Canada.
1870.	\$ 4,019,425	\$ 1,131,433	No data.	\$ 1,161,551	\$ 264,982	No data.	No data	\$ 6,577,391
1871.	5,101,030	1,185,033	do	1,093,612	183,524	do	do	7,573,199
1872.	6,016,835	1,985,459	do	1,320,189	267,633	do	do	9,570,116
1873.	6,577,087	2,285,662	207,595	1,391,564	293,091	do	do	*10,754,997
1874.	6,652,302	2,635,794	288,863	1,698,660	446,267	do	do	11,691,846
1875.	5,573,851	2,427,654	298,927	1,596,759	453,194	do	do	10,350,385
1876.	6,029,050	1,953,389	494,967	2,087,688	437,239	do	do	11,117,000
1877.	5,527,858	2,133,237	783,036	2,560,147	438,223	104,697	do	12,005,934
1878.	6,131,600	2,405,780	840,344	2,664,055	348,132	583,433	do	13,256,678
1879.	5,752,937	2,654,722	1,402,301	2,810,395	367,133	935,767	do	13,529,251
1880.	6,291,061	2,744,447	1,675,089	2,631,556	444,491	631,768	do	14,499,979
1881.	6,214,782	2,930,904	1,955,290	2,751,932	509,903	1,454,331	do	15,817,162
1882.	7,131,418	3,192,339	1,855,687	1,976,518	825,457	1,842,675	do	16,821,192
1883.	7,689,374	3,185,674	1,272,468	2,138,997	1,027,033	1,644,646	do	16,953,192
1884.	8,738,779	3,730,454	1,056,619	1,694,561	1,133,734	1,358,267	do	17,766,404
1885.	8,293,922	4,005,431	1,293,430	1,719,460	1,342,632	1,078,038	do	17,722,973
1886.	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,577,348	186,930	18,679,238
1887.	8,379,782	3,659,607	1,077,436	1,773,567	1,531,850	1,974,887	129,184	18,386,103
1888.	7,817,030	2,941,663	876,862	1,860,012	1,839,869	1,902,195	180,677	17,418,510
Totals.	126,368,485	51,099,019	16,489,695	36,602,613	13,600,415	15,791,375	496,741	260,443,543

\* Note.—The difference between this total and that in the aggregate table published in 1887, page xxiv, is that in last year's the details of Prince Edward Island fisheries were not included.

## STAFF.

The Outside Staff of the Department is composed of the following officers :

Mr. W. H. Rogers, Inspector of Fisheries, Amherst, N.S.  
Mr. A. C. Bertram, Fishery Officer, North Sydney, C.B.  
Mr. W. H. Venning, Inspector of Fisheries, St. John, N.B.  
Mr. J. Hunter Duvar, Inspector of Fisheries, Alberton, P.E.I.  
Mr. Wm. Wakeham, Fishery Officer, Gaspé Basin, Quebec.  
Mr. Alex. McQueen, Inspector of Fisheries, Winnipeg, Manitoba.  
Mr. Thos. Mowat, Inspector of Fisheries, New Westminster, B.C.  
Mr. S. Wilmot, Superintendent of Fish Culture, Newcastle, Ont.  
Lieut. A. R. Gordon, R.N., Commanding Fisheries Protection Service,  
Toronto, Ontario.

These, together with the Fishery Overseers and Wardens in the several Provinces, including the officers and crews of the "Fisheries Protection Cruisers," totals 885 persons; to this number might be added about 25 Special Fishery Guardians, who are employed for short periods during the close seasons, making a total of 910 persons engaged in the fisheries service of the Dominion.

## FISHERIES PROTECTION SERVICE OF CANADA.

For a full report of the operations of this service for the season of 1888, I beg to refer to the report already submitted to Parliament.

I have the honor to be, Sir,

Your obedient servant,

JOHN TILTON,

*Deputy Minister of Fisheries.*

# APPENDIX No. 1.

## FISHING BOUNTIES.

GENERAL STATEMENT of Fishing Bounty Claims received for the Year 1887.

Province.	County.	No. of Claims Received.	No. of Claims Rejected.	No. of Claims Paid.
Nova Scotia .....	Annapolis.....	204	3	201
	Antigonish .....	138		138
	Cape Breton.....	503	9	494
	Colchester .....	1		1
	Digby.....	287		293
	Guysboro' .....	1,130	4	1,126
	Halifax.....	1,442	5	1,437
	Inverness.....	659	1	658
	King's .....	51	2	49
	Lunenburg .....	818	2	816
	Pictou .....	21	1	20
	Queen's .....	214	1	213
	Richmond.....	1,177	8	1,169
	Shelburne .....	650	4	646
	Victoria.....	675		675
	Yarmouth.....	292	2	291
		8,262	42	8,227
New Brunswick.....	Charlotte .....	762	5	770
	Gloucester .....	848	5	843
	Kent .....	238		238
	Northumberland .....	44	11	33
	Restigouche.....	2	2	
	St. John.....	65	7	59
	Westmoreland .....	16	1	15
		1,975	31	1,958
Prince Edward Island....	King's.....	653	36	618
	Prince.....	413	39	374
	Queen's .....	135	1	134
		1,201	76	1,126
Quebec .....	Bonaventure.....	1,351	13	1,338
	Gaspé .....	2,174	13	2,161
	Maguénay.....	613	7	606
		4,138	33	4,105

### RECAPITULATION.

Nova Scotia.....	8,262	42	8,227
New Brunswick .....	1,975	31	1,958
Prince Edward Island.....	1,201	76	1,126
Quebec.....	4,138	33	4,105
Totals .....	15,576	182	15,416



**GENERAL STATEMENT of Payments made on account of Fishing Bounty Claims to  
Boats and Vessels, for the year 1887.**

Province.	County.	Amount Paid.	Total.
		\$ cts.	\$ cts.
Nova Scotia.....	Annapolis .....	1,467 27	
	Antigonish .....	924 50	
	Cape Breton .....	3,974 14	
	Colchester .....	74 00	
	Digby .....	4,253 84	
	Guysboro' .....	10,174 08	
	Halifax .....	13,431 11	
	Inverness .....	6,673 88	
	King's .....	460 00	
	Lunenburg .....	19,905 83	
	Pictou .....	130 00	
	Queen's .....	2,862 50	
	Richmond .....	10,466 86	
	Shelburne .....	10,366 62	
	Victoria .....	4,688 50	
	Yarmouth .....	9,769 90	
			99,622 03
New Brunswick....	Charlotte .....	7,974 15	
	Gloucester .....	7,754 75	
	Kent .....	2,098 50	
	Northumberland .....	674 00	
	St. John .....	1,077 25	
	Westmoreland .....	121 00	
			19,699 65
Prince Edward Island...	King's .....	5,621 78	
	Prince .....	4,763 00	
	Queen's .....	2,143 73	
			12,528 51
Quebec.....	Bonaventure .....	8,862 00	
	Gaspé .....	16,569 23	
	Saguenay .....	6,476 50	
			31,907 73

**RECAPITULATION.**

Nova Scotia.....		99,622 03
New Brunswick.....		19,699 65
Prince Edward Island....		12,528 51
Quebec.....		31,907 73
Total.....		163,757 92

**DETAILED STATEMENT showing Fishing Bounties paid to Vessels in each County,  
for the Year 1887.**

Province.	County.	No. of Vessels.	Tonnage.	Average Ton- nage.	No of Men.	Amount Paid.
						\$ cts.
Nova Scotia.....	Annapolis .....	10	174	17	35	305 27
	Cape Breton.....	12	208	17	23	374 14
	Colchester.....	1	37	37	3	74 00
	Digby .....	64	1,425	22	380	2,671 34
	Guysboro' .....	29	1,132	39	212	2,210 58
	Halifax .....	96	2,569	27	538	5,097 61
	Inverness .....	23	857	37	115	1,582 88
	King's .....	8	109	14	25	218 00
	Lunenburg.....	121	8,076	67	1,339	16,154 33
	Queen's.....	15	847	56	171	1,650 00
	Richmond.....	49	1,403	29	351	2,762 86
	Shelburne .....	58	3,348	58	675	6,678 62
	Victoria .....	3	44	15	11	88 00
	Yarmouth.....	77	4,291	56	1,022	8,539 40
		566	24,520	43	4,900	48,407 03
New Brunswick.....	Charlotte.....	92	1,683	18	303	3,292 65
	Gloucester.....	20	311	15	68	618 75
	Kent .....	8	185	23	39	370 00
	Northumberland.....	10	309	31	60	445 00
	St. John.....	24	401	17	93	786 25
		154	2,889	19	563	5,512 65
Prince Edward Island....	King's.....	16	669	42	129	1,225 78
	Prince .....	14	612	44	134	1,127 00
	Queen's.....	8	396	49	75	734 73
		38	1,677	44	338	3,087 51
Quebec.....	Gaspé .....	18	706	39	117	1,233 98
	Saguenay.....	36	1,177	33	217	2,354 00
		54	1,883	35	334	3,587 98

**RECAPITULATION.**

Nova Scotia.....	566	24,520	43	4,900	48,407 03
New Brunswick .....	154	2,889	19	563	5,512 65
Prince Edward Island .....	38	1,677	44	338	3,087 51
Quebec .....	54	1,883	35	334	3,587 98
<b>Total .....</b>	<b>812</b>	<b>30,969</b>	<b>38</b>	<b>6,135</b>	<b>60,595 17</b>

**DETAILED STATEMENT of Fishing Bounties paid to Boats, for the Year 1887.**

Province.	County.	No. of Boats.	No. of Men.	Amount Paid.
				\$ cts.
Nova Scotia.....	Annapolis .....	191	322	1,162 00
	Antigonish .....	138	264	924 50
	Cape Breton .....	482	995	3,600 00
	Digby .....	229	446	1,582 50
	Guysboro' .....	1,097	2,183	7,963 50
	Halifax .....	1,341	2,202	8,333 50
	Inverness .....	635	1,439	5,091 00
	King's .....	41	66	242 00
	Lunenburg .....	695	947	3,751 50
	Pictou .....	20	36	130 00
	Queen's .....	198	326	1,212 50
	Richmond .....	1,120	2,106	7,704 00
	Shelburne .....	589	1,013	3,687 00
	Victoria .....	672	1,316	4,600 50
	Yarmouth .....	214	336	1,230 50
		7,662	13,997	51,215 00
New Brunswick.....	Charlotte .....	678	1,278	4,681 50
	Gloucester .....	823	2,053	7,136 00
	Kent .....	230	488	1,728 50
	Northumberland .....	23	63	229 00
	St. John .....	35	79	291 00
	Westmoreland .....	15	33	121 00
		1,804	3,994	14,187 00
Prince Edward Island...	King's .....	602	1,245	4,393 00
	Prince .....	360	1,057	3,636 00
	Queen's .....	126	409	1,409 00
		1,088	2,711	9,441 00
Quebec .....	Bonaventure .....	1,338	2,395	8,862 00
	Gaspé .....	2,143	4,070	15,335 25
	Saguenay .....	570	1,085	4,122 50
		4,051	7,550	28,319 75

**RECAPITULATION.**

Nova Scotia.....	7,662	13,997	51,215 00
New Brunswick .....	1,804	3,994	14,187 00
Prince Edward Island .....	1,088	2,711	9,441 00
Quebec .....	4,051	7,550	28,319 75
Totals.....	14,605	28,252	103,162 75

DETAILED STATEMENT of Fishing Bounties paid to Vessels, for the Year 1887.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
83,258	Alfred.. .....	Annapolis .....	22	Chas. Longmire.....	Hillsburn.....	a3	31 44
83,255	Floyd... .....	do .....	20	Jno. W. Sproule.....	Litchfield .....	b4	36 00
83,259	Hettie May .....	do .....	15	J. C. Winchester....	Granville.....	5	20 00
75,594	Lizzie G... .....	Digby. ....	16	David Hayden.....	Lower Granville ..	7	32 00
77,958	Maggie M.....	Annapolis .....	16	Parker Zwicker .....	Clements .....	3	32 00
83,257	Princess Louise....	do .....	21	Caribbean Co .....	.....	c1	23 63
83,253	Rescue. ....	do .....	17	Josiah Burrell.....	Clements. ....	4	34 00
59,347	Sea Gull. ....	do .....	20	S. W. Anderson.....	Hillsburn.....	3	40 00
77,956	Speed .....	do .....	13	A. J. Burrell.....	Clements .....	d3	18 20
38,036	Twilight .....	Digby.....	14	Geo. F. Neville.....	Granville Ferry.	2	28 00

a. 4 of crew did not fish 3 months.

c. 7 of crew did not fish 3 months.

b. 1 of crew paid in another vessel.

d. 3 of crew did not fish 3 months.

CAPE BRETON COUNTY.

88,515	Alexander Gordon	Sydney.....	12	Thos. McLellan.....	North Sydney...	3	24 00
88,511	Annabell....	do .....	11	Arch. McKinnon....	Sydney Mines....	2	22 00
74,031	Annie Linwood....	do .....	13	Donald McLeod .....	South Bar .....	3	25 00
88,507	Belle of Rome .....	do .....	14	Alex. Leblanc.....	Little Bras d'Or.	2	28 00
92,594	Florence.....	do .....	17	Sam. Scott.....	North Sydney....	4	34 00
88,513	Ida .....	do .....	10	Joseph Jessome.....	Little Bras d'Or.	2	20 00
80,977	J. W. Ingraham....	do .....	14	Chas. Anesty .....	North Sydney....	3	28 00
80,973	Ocean Wave.....	do .....	20	Sam. Moore.....	Little Bras d'Or.	5	40 00
88,504	Quick Step .....	do .....	12	Joseph Marsh, M.O..	Lingan.....	4	24 00
75,707	R. Grant.....	do .....	43	Jonathan Noel.....	North Sydney....	a1	49 14
74,038	River Queen .....	do .....	32	Peter Desveaux .....	Little Bras d'Or.	5	64 00
75,703	Stella Maria.....	do .....	10	Geo. White .....	North Sydney....	b1	15 00

a. 6 of crew belong to Newfoundland.

b. 1 of crew paid as boat fisherman.

COLCHESTER COUNTY.

42,987	Daniel.....	Charlottetown, P. E. I. ....	37	John Roberts.....	Tatamagouche...	3	74 00
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# DETAILED STATEMENT of Fishing Bounties paid to Vessels, for the Year 1887.

## DIGBY COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty paid.	
							\$	cts.
72,978	Annie Coggins....	Digby.....	22	Livingstone Coggins	Westport.....	8	44	00
71,032	Arthur.....	Yarmouth.....	22	H. Outhouse.....	Tiverton.....	8	44	00
75,612	Alice.....	do.....	17	Gilbert Bates.....	Freeport.....	7	34	00
83,431	Acadian.....	Weymouth.....	32	R. Potier, M.O.....	Metaghan.....	9	64	00
80,795	Buda.....	Digby.....	20	F. P. Ruggles.....	Westport.....	d4	33	32
71,332	Crusade.....	do.....	44	Howard Anderson....	Digby.....	9	88	00
85,684	Constitution.....	do.....	28	Jas. A. Hughes.....	do.....	d6	46	67
74,331	Condor.....	Yarmouth.....	11	Maurice Haycock....	Westport.....	5	22	00
74,326	Dreadnaught.....	do.....	20	Wallace Gower.....	do.....	6	40	00
75,711	Dove.....	do.....	20	Joseph Ossinger....	Tiverton.....	6	40	00
90,662	Edward A. Horton	Digby.....	67	Joseph Snow.....	Digby.....	12	134	00
77,740	Elmer.....	do.....	15	Walter Coggins.....	Westport.....	6	30	00
75,767	Etta.....	Yarmouth.....	17	J. W. C. Webber.....	do.....	6	34	00
85,683	Edith L.....	Digby.....	16	Isaac Peters, M.O....	do.....	6	32	00
80,797	Ella H.....	do.....	13	M. & E. Haines.....	Freeport.....	5	26	00
75,601	Flash.....	do.....	10	Jas. A. Peters.....	Westport.....	4	20	00
74,329	Fairy Queen.....	Yarmouth.....	13	W. E. Coggins.....	Westport.....	5	26	00
80,798	Freddie G.....	Digby.....	18	Geo. Gower.....	do.....	6	36	00
75,614	Fawn.....	do.....	17	J. Peters, M.O.....	do.....	5	34	00
86,650	Fair Play.....	Yarmouth.....	11	Jno. Sollows. Sr....	Port Maitland....	5	22	00
80,799	Gladstone.....	Digby.....	16	Aug. Haycock.....	Westport.....	6	32	00
80,800	Helen Maud.....	do.....	20	Chs. McDormand....	do.....	7	40	00
80,799	Hattie T.....	do.....	16	F. P. Titus.....	do.....	5	32	00
80,650	Happy Home.....	Yarmouth.....	14	Jno. Pugh.....	do.....	6	28	00
75,751	Helen Gertrude	do.....	16	M. & E. Haines.....	Freeport.....	6	32	00
80,604	Nickerson.....	do.....	16	Chas. Hicks.....	Westport.....	5	32	00
74,328	J. D. Payson.....	do.....	42	G. W. Corning et al.	Port Maitland....	c	42	00
88,404	Live Yankee.....	Digby.....	57	Howard Anderson....	Digby.....	d4	77	74
85,685	L. M. Ellis.....	do.....	35	Wm. E. Ellis.....	do.....	e3	52	51
75,597	Little Fury.....	do.....	13	Ben. Taylor.....	do.....	3	26	00
85,690	Lora T.....	do.....	15	Joseph Thurber....	Freeport.....	7	30	00
77,783	Lost Heir.....	Port Medway....	15	A. H. Outhouse.....	Tiverton.....	6	30	00
80,786	Lizzie P.....	Digby.....	12	Mary E. Wyman.....	Freeport.....	f3	16	50
85,687	Mable.....	do.....	38	Orbin Sproule.....	Digby.....	g4	51	80
59,356	M. P. Reed.....	Annapolis.....	30	D. & O. Sproule....	do.....	4	60	00
74,322	Morning Star.....	Yarmouth.....	25	Jas. W. Cousins.....	do.....	7	50	00
80,794	Minnie C.....	Digby.....	18	Chs. Bailey.....	Westport.....	6	36	00
85,682	Malapert.....	do.....	23	James Glaven.....	do.....	8	46	00
77,618	May Queen.....	Barrington.....	34	Livingston Coggins..	do.....	11	68	00
74,337	May.....	Shelburne.....	28	Frank Thurber.....	Freeport.....	8	56	00
85,533	Minnie C.....	Yarmouth.....	12	Jno. N. Sanders.....	Port Maitland....	4	24	00
72,977	Nellie H Hamm....	Digby.....	26	Isaac Peters, M.O....	Westport.....	8	52	00
90,873	Primrose.....	Yarmouth.....	34	Wm. McKenzie.....	Maitland.....	7	68	00
75,714	Prince.....	do.....	10	Geo. H. Stevens.....	Freeport.....	5	20	00
83,132	Restless.....	Digby.....	25	Frank Sutherland....	Westport.....	8	50	00
42,081	Randolph P.....	do.....	15	Chs. McDormand MO	do.....	2	30	00
75,547	River Rose.....	Barrington.....	13	E. C. Bowers.....	do.....	h3	20	80
85,558	S. A. Crowell.....	Yarmouth.....	23	Luke Leblanc, et al	Salmon River....	6	46	00
75,725	Stella.....	do.....	24	Jacob Gilliland.....	Waterford.....	4	48	00
75,726	Thrush.....	do.....	13	E. C. Bowers.....	Westport.....	5	26	00
42,072	Ulrica.....	Digby.....	20	Jacob Davis.....	do.....	i3	30	00

a. 2 of crew did not fish 3 months.

c. Crew did not fish 3 months.

e. 3 of crew did not fish 3 months.

g. 7 of crew did not fish 3 months.

h. 3 of crew did not fish full time.

b. 3 of crew paid in another vessel.

d. 7 of crew paid in other Vessels.

f. 5 of crew did not fish 3 months.

i. 2 of crew did not fish full time.

**DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—Con.**

**DIGBY COUNTY—Concluded.**

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No of Crew.	Amount of Bounty Paid.
							\$ cts.
37,282	Victoria.....	Digby .....	29	Turnbull & Welch..	Digby.....	8	58 00
80,630	Vanity.....	Yarmouth .....	11	Chas. Cann & Co....	Port Maitland...	4	22 00
72,980	Wave.....	Digby.....	11	Sam. Thurber.....	Freeport.....	4	22 00
85,559	Willie F .....	Yarmouth .....	12	Mande Trahan & Leon. X. Deveau..	Cape St. Mary's..	5	24 00
85,541	Willie M.....	do .....	24	Josiah Ellis.....	Green Cove.....	71	28 00
71,334	Watchman. ....	Barrington. ....	15	M. Thibaudau.....	Churchpoint.....	4	30 00
76,722	Yuba.....	Yarmouth .....	15	Geo. Denton, M.O..	Westport. ....	6	30 00

*j.* 5 of crew did not fish full time.

**GUYSBORO' COUNTY.**

80,985	Annie Roy. ....	Guysboro'.....	80	Geo. E. Jost.....	Guysboro'.....	13	160 00
41,771	Atalia.....	do .....	34	Thos. H. Peeples...	Pirate Harbor...	4	68 00
80,991	Atalanta .....	do .....	80	Sweet, McMillan & Co.....	Isaac's Harbor...	18	160 00
80,992	Annie W.....	do .....	10	Elijah Walters.....	Wine Harbor.....	2	20 00
37,565	Defiance.....	do .....	24	Caleb Peart.....	Guysboro'.. ..	44	40 00
80,988	Dido .....	do .....	59	Sweet, McMillan & Co.....	Isaac's Harbor...	14	118 00
80,994	Espérance.....	do .....	10	Thos. Munroe, Sr....	White Head.....	2	15 00
80,999	Guardian Angel..	do .....	21	Joseph Fougère, Jr.	Larry's River.....	7	42 00
80,996	Gertie Belle .....	do .....	15	Alex. H. Munroe....	White Head.....	5	30 00
80,987	Geraldine.....	Halifax.....	80	A. N. Whitman. ....	Canso.....	20	160 00
90,484	Helena May.....	do .....	70	do .....	do .....	14	140 00
83,400	Hope .....	do .....	14	Goe. B. Hadley, M.O	Port Mulgrave...	62	21 00
80,997	Hippomenes .....	Guysboro'.. ..	80	Sweet, McMillan & Co.....	Isaac's Harbor...	15	150 58
83,091	Jennie.....	Port Hawkesb'ry	11	Jno. Jamieson.....	Steep Creek .....	2	22 00
74,039	James Henry.....	Sydney.....	18	Wm. Archibald.....	Sherbrooke.....	2	36 00
77,781	Lina May.....	Guysboro'.....	80	A. N. Whitman .....	Canso.....	14	160 00
69,964	Lizzie A. ....	Pt. Hawkesbury	20	Jno. F. Reeves, M.O	Pirate Harbor...	3	40 00
80,998	Lorne .....	Guysboro'.....	51	Stephen McMillan...	Isaac's Harbor...	15	102 00
69,141	Mary Elizabeth...	Halifax.....	16	Wm. G. Webber.....	Torbay .....	4	32 00
88,230	Morning Light....	do .....	28	W. J. Arnold .....	do .....	41	32 00
83,092	Maud F.....	Pt. Hawkesbury	11	Wm. Critchett.....	Steep Creek .....	2	22 00
88,443	North Star.....	Halifax.....	25	Robt. Cooper.....	Wine Harbor....	4	50 00
80,970	Orion .....	do .....	24	Edward B. Pelrine..	Larry River.....	6	48 00
75,892	Peter Mitchell....	Pt. Hawkesbury	26	Wm. Power, M.O ..	Pirate Harbor...	4	52 00
69,967	Sea Breeze .....	Guysboro'.....	46	Wm. Maguire, M.O ..	Steep Creek .....	5	92 00
74,129	Telephone.....	Port Medway....	70	Wm. McConnell .....	Port Hillford....	6	140 00
42,231	Volunteer .....	Halifax.....	16	Henry Linden.....	Charlo's Cove...	4	32 00
36,991	Vegete.....	do .....	33	Jno. Maskell .....	Jeddore .....	4	66 00
80,852	Victory.....	do .....	80	E. & J. Purcell.....	Port Mulgrave...	15	160 00

*a.* 2 of crew did not fish 3 months.

*c.* 2 of crew belong to Newfoundland.

*b.* 2 of crew did not fish full time.

*d.* Seven of crew did not fish full time.

DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—*Con.*

## HALIFAX COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
90,495	Annie S.....	Halifax.....	34	B. Keating.....	Ship Harbor....	6	68 00
83,106	Annie Isabel .....	do .....	23	J. & T. Bowser.....	Musquodoboit Harbor .....	5	46 00
61,625	Alpha.....	do .....	18	Joshua Dauphiney..	French Village..	3	36 00
74,040	Addie.....	do .....	17	Denis Fagan.....	Ketch Harbor....	5	36 00
57,727	Agnes.....	do .....	21	Jno. Hayes.....	Herring Cove....	5	42 00
36,474	Alex. Fraser.....	Lunenburg .....	32	Richard Kaizer.....	Halifax.....	4	64 00
36,996	Agile.....	do .....	27	Henry A. Shatford..	Hubbard's Cove..	6	54 00
90,721	Brilliant Star....	Halifax.....	36	P. & J. Hartlin....	East Jeddore....	10	72 00
74,095	Brill.....	do .....	28	Jno. Fagan.....	Ketch Harbor....	3	56 00
90,496	Black Prince.....	do .....	18	J. W. Slaunwhite...	Terrence Bay....	3	36 00
64,914	Blooming Dale .....	do .....	14	James York, sen....	Eastern Passage ..	5	28 00
74,071	Condor.....	do .....	15	Jno. Julien.....	West Chezetcook ..	3	30 00
75,806	Can't Help It.....	do .....	57	H. & W. Beazley....	Ferguson's Cove ..	12	109 61
61,629	Carrie R.....	Guysboro' .....	17	James Reyno.....	Herring Cove....	3	34 00
85,381	Champion.....	Halifax.....	17	J. H. Slaunwhite, M.O.	Terrence Bay....	5	34 00
74,108	City Belle.....	do .....	21	Chas. Zink.....	Dover.....	3	42 00
85,667	Dart.....	do .....	10	Geo. Julien.....	West Chezetcook ..	2	20 00
85,655	Daisy.....	do .....	16	C. & Wm. Johnson..	Indian Harbor...	4	32 00
85,663	Daring.....	do .....	18	C. Slaunwhite.....	Terrence Bay....	3	36 00
57,674	Dreadnaught.....	do .....	17	J. F. Slaunwhite....	do .....	3	34 00
57,672	Daisy.....	do .....	35	S. Smith, sen.....	Ferguson's Cove ..	64	63 00
83,320	Dessie M.....	Port Medway....	80	J. T. Thompson .....	Halifax.....	17	160 00
90,674	Eddie.....	Shelburne.....	74	C. W. Anderson .....	do .....	15	148 00
80,832	Ella May.....	Lunenburg .....	16	Geo. Adams.....	Indian Harbor...	3	32 00
90,481	Ella D.....	Halifax.....	32	Archibald Darrah...	Herring Cove....	8	64 00
74,091	Eastern Clipper....	do .....	35	J. Fader & Geo. Cole	Head Harbor....	3	70 00
90,726	Ellen Maud.....	do .....	16	Geo. Schnare.....	Pennant.....	4	32 00
55,836	Frank Newton.....	Sydney.....	41	Theo. Conrod.....	Sheet Harbor....	5	82 00
88,225	Frances E. Conrod	Halifax.....	66	do .....	do .....	6	132 00
61,972	Fanny.....	do .....	17	James Bayers.....	Petpiswick H'br ..	4	34 00
88,227	Fleetwing.....	do .....	32	Thos. Lapierre, senr.	West Chezetcook ..	9	64 00
90,917	Florence.....	do .....	80	C. W. Anderson.....	Halifax.....	15	160 00
61,903	Flying Cloud.....	Liverpool.....	20	Moses Brooks.....	Ketch Harbor....	3	40 00
83,180	Friend.....	Lunenburg .....	17	C. Garrison and S. Hubley .....	Indian Harbor...	5	34 00
77,751	Flora Dell.....	Halifax.....	63	Geo. W. Smith.....	do .....	14	126 00
85,644	Flora.....	Lunenburg .....	42	Patrick Scallion .....	do .....	9	84 00
41,818	Grey Hound.....	Halifax.....	23	W. C. & J. H. Henley	Spry Bay.....	4	46 00
90,489	Green Leaf.....	do .....	44	James Julien, M.O.	West Chezetcook ..	10	98 00
83,220	Grande.....	do .....	14	Wm. Hart.....	Sambro.....	4	28 00
85,382	G. H. Marryatt....	do .....	24	Geo. H. Marryatt....	Pennant.....	4	48 00
57,760	Guardian Angel...	do .....	36	Jno. Reyno.....	Herring Cove....	7	72 00
73,116	Hattie Lewis.....	do .....	54	Leslie, Leslie & Co.	Spry Bay.....	6	84 00
69,097	Highland Jane.....	do .....	31	Geo. Hartling.....	East Jeddore....	8	64 00
77,786	Hesperus.....	Port Medway....	17	A. Bracket.....	Herring Cove....	3	34 00
88,213	H. H. Belle.....	Halifax.....	13	L. Longard et al .....	French Village....	3	26 00
69,172	Hope.....	do .....	31	M. McGrath.....	Upper Prospect...	5	61 00
85,379	Helena.....	do .....	17	Denis Ryan.....	Lower Prospect ..	5	34 00
83,134	Infant.....	do .....	15	J. F. Slaunwhite....	Terrence Bay....	3	30 00
83,506	Jona.....	do .....	26	Andrew Sullivan....	Herring Cove....	7	52 00
83,135	J. B. M.....	do .....	20	John Brown, sr.....	do .....	4	40 00
54,132	John Franklin.....	do .....	18	James Dempsey.....	do .....	7	36 00
69,105	Lady of the Lake..	do .....	20	Edward Walsh, sr....	Upper Prospect...	3	40 00

a. One of crew drowned.

b. One of crew not entitled to bounty.



DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia *Con.*HALIFAX—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
92,568	Mary Kate.....	Halifax.....	13	John P. Westhaven	Sober Island.....	4	26 00
46,498	Mariner.....	do .....	56	W. C. & J. H. Henley	Spry Bay. ....	7	112 00
85,388	Mary Alice.....	do .....	21	Charles Beaver.....	do .....	7	42 00
90,722	Minnie Bell.....	do .....	11	John Kent.....	Musquodoboit H.	2	22 00
85,385	Minnie M. ....	do .....	16	Isaac Lapierre <i>et al</i>	W. Chezzetcook	6	52 00
88,431	May Flower.....	do .....	21	J. & P. Lapierre.....	do .....	7	42 00
61,939	Margaret.....	do .....	22	Francis Henrion....	Ferguson's Cove	5	44 00
83,408	M. A. Franklin....	do .....	22	J. Morash & A. Launt	West Dover.....	3	44 00
83,108	Maud .....	do .....	15	Joseph Reyno, jr....	Herring Cove....	4	30 00
85,664	Mary E .....	do .....	14	Andrew Twohig....	Pennant.....	3	28 00
90,716	New Dominion....	do .....	34	J. & J. Fillis.....	W. Chezzetcook	8	68 00
30,843	Nettie B. H. ....	do .....	23	Jno. & Wm. Hearn...	Upper Prospect.	5	46 00
85,665	Nellie D .....	do .....	12	Daniel Smith.....	Sambro .....	3	24 00
80,841	Nina .....	do .....	13	Thomas Stephens....	Herring Cove....	3	26 00
64,018	Ocean Bride .....	do .....	23	M. Lynch, jr.....	Ferguson's Cove	6	46 00
57,681	Quickstep.....	do .....	22	Edward Gallagher...	Ketch Harbour...	5	44 00
59,462	Rival .....	do .....	20	H. Faulkner.....	Head Jeddore...	6	40 00
53,551	Roving Bird .....	do .....	24	John Brown, sr.....	Herring Cove....	6	48 00
73,119	Royal .....	do .....	12	John Corney <i>et al</i> ...	East Dover.....	5	24 00
88,223	River Belle.....	do .....	11	Richard Christian...	Upper Prospect..	3	22 00
88,439	Ripple .....	do .....	20	D. & F. Horne.....	S. E. Passage....	5	40 00
37,519	Safe Guide.....	do .....	36	John T. Abriel.....	Pope's Harbor...	7	72 00
69,134	Sophia Catherine..	do .....	19	C. H. Shellnut.....	Pleasant Harbor	3	38 00
74,087	Sea Gem.....	do .....	30	William Jennex ....	East Jeddore....	7	60 00
88,229	Seaway .....	do .....	22	Gab. Murphy.....	W. Chezzetcook	6	44 00
83,114	Sailors Fancy.....	do .....	16	E. Crooks & L. Pace	Glen Margaret...	4	32 00
64,869	Sarah L. Oxner....	do .....	34	Edward Hayes.....	Herring Cove....	8	68 00
88,436	S. G. Morton.....	do .....	44	Henry Lapierre.....	Chezzetcook.....	11	88 00
31,600	Starlight.....	do .....	29	Mark Power.....	Herring Cove....	7	58 00
75,833	Twilight .....	do .....	14	Eli Baker .....	East Jeddore....	6	28 00
90,490	T. W. Wolf.....	do .....	31	S. Fillis <i>et al</i> .....	W. Chezzetcook	8	62 00
77,836	T. W. Smith .....	do .....	35	William Hayes.....	Herring Cove....	8	70 00
90,482	Two-Forty.....	do .....	18	Geo. H. Slaunwhite	Terrence Bay...	3	36 00
61,946	Union .....	do .....	23	Nath. Dukes.....	Jeddore.....	5	46 00
90,485	Violet West.....	do .....	36	T. A. Gaetz <i>et al</i> ...	Seaforth .....	8	72 00
57,662	Village Bride.....	do .....	24	Em. Fagan.....	Ketch Harbor....	3	48 00
83,403	Walter Alton.....	do .....	59	W. C. Henley.....	Spry Bay.....	7	118 00
92,569	Walter.....	do .....	15	Charles Gray.....	Sambro .....	4	30 00
68,727	Willow.....	do .....	18	Jeffry Gorman.....	Herring Cove....	62	30 00
75,678	Wily .....	Lunenburg.....	13	James Morash, jr....	West Dover.....	4	26 00
88,222	Wave .....	Halifax.....	15	F. Slaunwhite, jr., M O .....	Terrence Bay...	3	30 00
83,042	Western Belle .....	do .....	23	John Thomas, sr....	Herring Cove....	5	46 00
88,228	Welcome.....	do .....	33	George Bonain, M O.	W. Chezzetcook	7	66 00
71,368	Zelu.....	do .....	21	A. & S. Publicover..	West Dover .....	5	42 00

c. One of crew not entitled to bounty.



## DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—Con.

## INVERNESS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No of Crew.	Amount of Bounty Paid.
							\$ cts.
30,731	Annie E. Paint....	Pt. Hawkesbury.	80	W. H. & F. L. M. Paint.....	Pt. Hawkesbury.	15	160 00
75,888	Annie.....	Pictou .....	22	Luke R. Holmes....	Pictou .....	a3	32 98
75,561	Boreas .....	Lunenburg .....	41	John Colford .....	Port Richmond.	5	82 00
37,963	British Pearl.....	Guysboro'.....	78	Peter Paint, jr.....	Pt. Hawkesbury.	6	156 00
38,343	Ceylon. ....	Pt. Hawkesbury.	80	W. H. & F. L. M. Paint.....	do ...	15	160 00
33,082	Emma .....	do ...	24	Severin Arseneau ..	Margaree.....	6	48 00
77,763	Fanny Young .....	do ...	80	W. H. & F. L. M. Paint.....	Pt. Hawkesbury	16	160 00
33,088	Good Intent.....	do ...	22	Geo. Walker .....	Riv. Inhabitants	2	44 00
39,154	Head Reaches .....	do ...	56	Robert Murray.....	Port Richmond.	b3	74 66
39,755	Hector .....	do ...	11	N. McDonald .....	Basin River Inhabitants .....	2	22 00
30,734	Helen M. Crosby..	do ...	64	Peter Paint, jr.....	Pt. Hawkesbury.	c4	81 04
38,468	Hector .....	Arichat .....	35	J. C. Skinner.....	Port Hastings ..	d3	50 00
39,969	Morning Light.....	Pt. Hawkesbury.	39	David Walker .....	Basin River Inhabitants.....	5	78 00
39,125	May Flower .....	Halifax .....	11	P. Cormier <i>et al</i> ....	Eastern Harbor..	4	22 00
31,330	Olive J .....	do .....	57	Peter Malcolm .....	Port Malcolm....	9	114 00
34,033	Ripple .....	Pt. Hawkesbury.	34	J. W. & G. A. Cruickshanks....	Port Richmond.	e3	54 40
.....	Sisters .....	Chatham, N.B...	13	John Walker .....	Basin River Inhabitants.....	2	26 00
33,094	Saint Mary .....	Pt. Hawkesbury.	15	D. Chiasson & P. Doucette .....	East Margaree...	6	30 00
30,733	Saint Joseph.....	do ...	27	John Deveau .....	do ...	5	54 00
33,096	Saint Patrick.....	do ...	11	A. A. Taylor .....	Margaree Harbor	f4	19 80
33,603	Sea Flower.....	do ...	25	P. Robin & Co.....	Eastern Harbor	6	50 00
32,567	Trial .....	Halifax .....	13	A. Cormier, M.O....	Margaree Harbor	4	26 00
34,718	Temperance .....	Pt. Hawkesbury.	19	John McFarlane....	do	6	38 00

a. Three of the crew did not fish 3 months.

c. Eleven of crew did not fish 3 months.

e. Two of crew did not fish 3 months.

b. Six of crew did not fish 3 months.

d. Four of crew did not fish 3 months.

f. One of crew paid in another vessel.

## KING'S COUNTY.

32,487	Alice Maud .....	Windsor .....	12	T. Cox & H. Parker.	.....	3	24 00
38,397	Ada B .....	do .....	10	Carr Bolsor.....	Blomidon .....	3	20 00
75,430	Dolphin .....	Annapolis .....	11	Henry E. Ogilvie....	Harborville .....	3	22 00
30,380	Enterprise .....	Parrsboro'.....	15	Caleb Ogilvie .....	do .....	3	30 00
39,397	Helen C. Young...	St. Andrews, N.B.	21	Dan W. Coffil. ....	Cornwallis .....	5	42 00
35,442	Mystery .....	Windsor .....	14	John F. Paul .....	Hall's Harbor....	4	28 00
32,486	Notilus .....	do .....	11	Fred. Parker .....	do ...	2	22 00
35,629	Unexpected .....	Parrsboro'.....	15	Elias Parker .....	do ...	2	30 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—Con.

LUNENBURG COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
85,739	Aubrey A.....	Lunenburg .....	80	Benj. Anderson .....	Lunenburg .....	15	160 00
92,621	A. G. Heisler.....	do .....	80	Alf. Heisler .....	do .....	14	160 00
90,870	Arietis .....	do .....	80	Chas. Hewitt .....	do .....	14	160 00
83,140	Araunah .....	do .....	71	James E. Hunt, ....	do .....	14	142 00
90,600	Acadia.....	do .....	79	D. Smith, M.O. ....	do .....	12	158 00
83,176	Amazon .....	do .....	73	Chas. L. Silver ....	do .....	12	146 00
77,601	Atlas .....	do .....	52	Emmanuel Seller....	South .....	11	104 00
90,852	Athlete .....	do .....	78	John B. Young.....	Lunenburg .....	12	156 00
46,476	Amiel Corkum ....	do .....	53	Wm. A. Zwicker.....	do .....	10	106 00
69,143	Arequippa.....	Halifax.....	36	J. S. Bell.....	La Have.....	8	72 00
88,601	Algeria .....	Lunenburg .....	80	Eph. Lohnes, M.O....	do .....	14	160 00
90,866	Alice .....	do .....	12	Levi Hewitt.....	Dayspring.....	4	24 00
88,359	Bridewell .....	do .....	77	J. Dauphinee .....	Lunenburg .....	12	154 00
88,341	Blizzard .....	do .....	80	A. J. Wolff .....	do .....	18	160 00
85,347	Brilliant .....	do .....	80	John B. Young .....	do .....	15	160 00
85,345	Beatrice.....	do .....	79	Wm. A. Zwicker....	do .....	12	158 00
85,730	Beulah .....	do .....	80	Eph. Lohnes, M.O....	La Have .....	14	160 00
80,825	Bridgewater.....	do .....	60	Boj. Mason .....	Mahone Bay.....	9	120 00
85,732	Conductor.....	Lunenburg.....	80	S. W. Oxner, M.O....	Lunenburg .....	14	160 00
90,869	Clara E. Mason....	do .....	80	David Smith, M.O....	do .....	12	160 00
92,622	Coronet .....	do .....	80	A. H. Zwicker.....	do .....	16	160 00
74,014	Corsica .....	do .....	79	Henry Greaser, M.O.	La Have .....	12	158 00
90,857	Capio.....	do .....	72	Abt. McKean.....	Pleasantville ...	14	144 00
90,856	Cleta .....	do .....	80	W. N. Reinhardt, M.O.	La Have .....	14	160 00
88,348	Cymbeline.....	do .....	80	Wm. Sarty, M.O....	do .....	14	160 00
74,131	City Queen.....	do .....	53	John Bruhn.....	Mahone Bay.....	9	106 00
85,642	Charlotte E. C....	do .....	80	Wm. E. Colp .....	do .....	12	160 00
88,358	Dolphin .....	do .....	80	Thos. Hamm, M.O....	Lunenburg .....	15	160 00
85,736	Dominion.....	do .....	80	Geo. A. Ross, M.O....	do .....	14	160 00
77,607	Dianthus.....	do .....	45	Geo. Parks .....	La Have.....	8	90 00
88,618	Darling .....	do .....	80	J. B. Sarty, M.O....	do .....	14	160 00
88,355	D. A. Mader.....	do .....	80	J. A. Mader.....	Mahone Bay.....	12	160 00
83,136	Eva Stewart.....	do .....	80	Samuel Risser.....	Lunenburg .....	14	160 00
69,173	Ellen May.....	do .....	60	D. Westhaver .....	Martin's Brook...	10	120 00
90,865	Etta May.....	do .....	58	Edmund Hirtle, M.O.	La Have.....	12	116 00
90,584	Eldora .....	do .....	75	Wm. McGregor .....	do .....	13	150 00
88,606	Egeria .....	do .....	80	J. D. Sperry, M.O....	Petite Rivière ...	16	160 00
88,356	Energy .....	do .....	80	Alex. Chisholm .....	Mahone Bay.....	14	160 00
85,731	Eva L. H.....	do .....	62	Jas. Wentzel .....	Indian Point.....	12	124 00
85,738	Emma F.....	do .....	13	Jas. F. Bontilier .....	Sandy Beach.....	3	26 00
85,631	Forest Belle .....	do .....	80	Leonard Young .....	Lunenburg .....	14	160 00
90,829	Florence B.....	do .....	32	Elias Richard, sen..	La Have .....	7	64 00
71,338	Fish Hawk.....	Barrington .....	49	Thos. A. Wilson .....	Bridgewater .....	10	98 00
66,749	Flash .....	Halifax.....	24	Thos. Coolen .....	Fox Point .....	3	48 00
85,734	Glenola .....	Lunenburg .....	80	Chas. L. Silver .....	Lunenburg .....	14	160 00
90,582	G. A. Smith .....	do .....	80	Wm Young .....	do .....	14	160 00
88,347	Geneva .....	do .....	80	do .....	do .....	16	160 00
90,862	Grenada.....	do .....	80	Reuben Romkey, MO	La Have.....	14	160 00
90,831	Glide .....	do .....	16	Jas. S. Sperry, M.O.	West Dublin .....	2	32 00
90,588	Grenoble .....	do .....	47	Edward Weagle .....	Dayspring.....	11	94 00
90,859	Hector W. McGregor	do .....	80	Wm. McGregor, M.O.	La Have.....	14	160 00
90,525	Iris .....	do .....	80	David Smith, M.O....	Lunenburg .....	14	160 00
90,599	J. A. Hirtle.....	do .....	73	Geo. Geldert.....	South .....	11	146 00

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, etc.—Nova Scotia—*Con.*LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
74,019	Jewel .....	Lunenburg .....	52	Leonard Young .....	Lunenburg .....	9	104 00
85,723	Jessie A. Loye .....	do .....	80	do .....	do .....	16	160 00
85,727	Jessie .....	do .....	40	Jas. E. Hunt, M.O. ....	do .....	8	80 00
85,724	Jumbo .....	do .....	21	Leander Publicover, M.O. ....	La Have .....	7	42 00
83,485	John M. Inglis .....	Liverpool .....	79	Jno. S. Wolfe, M.O. ....	do .....	16	158 00
74,150	J. P. Corkum .....	Lunenburg .....	16	John Pearl .....	Tancook .....	22	24 00
90,854	Latona .....	do .....	80	L. Anderson & Co., M.O.'s .....	Lunenburg .....	14	160 00
80,822	Leone .....	do .....	79	Isaac Mason, M.O. ....	do .....	12	158 00
90,867	Laura A. Smith .....	do .....	80	S. W. Oxner, M.O. ....	do .....	14	160 00
83,351	Louisa J. Selig .....	do .....	80	J Moyle Rudolph MO ..	do .....	15	160 00
80,840	Lettie May .....	do .....	41	Wm. Cleversey, M.O ..	La Have .....	8	82 00
88,352	Linaria .....	do .....	80	Samuel Hilton, M.O ..	Petite Rivière ..	14	160 00
88,360	Lettie M. Hardy ..	do .....	80	W. A. Pickels .....	Mahone Bay .....	15	160 00
36,495	Lady Speedwell ...	do .....	56	Jno. H. Publicover ..	Blandford .....	9	112 00
85,177	Maggie Belle .....	do .....	72	Alf. Heisler .....	Lunenburg .....	12	144 00
90,583	Moriah .....	do .....	79	C. L. Smith, M.O. ....	do .....	11	158 00
90,586	Morris Wilson .....	do .....	80	J. H. Wilson, M.O. ....	do .....	14	160 00
83,173	Maggie Smith .....	do .....	80	Reuben Smith, M.O. ....	La Have .....	14	160 00
85,646	Maud .....	do .....	15	James Morash .....	N. West Cove .....	64	27 00
88,342	Nova Zembla .....	do .....	80	F. Anderson, M.O. ....	Lunenburg .....	12	160 00
88,613	N. P. Christian .....	do .....	80	Alf. Heisler .....	do .....	16	160 00
85,343	Narcissus .....	do .....	80	S. W. Oxner, M.O. ....	do .....	14	160 00
88,603	Nokomis .....	do .....	80	Chas. U. Mader .....	Mahone Bay .....	14	160 00
90,851	Niagara .....	do .....	74	Benj Mason .....	do .....	9	148 00
88,350	Orion .....	do .....	78	Thos. Hamm, M.O. ....	Lunenburg .....	9	156 00
88,344	Onward .....	do .....	80	Chas. Hewitt, M.O. ....	do .....	14	160 00
90,598	Osprey .....	do .....	80	Chas. Smith, M.O. ....	do .....	14	160 00
85,632	Ocean Belle .....	do .....	80	Leonard Young .....	do .....	12	160 00
88,346	Olive .....	do .....	80	Dan. Getson, M.O. ....	La Have .....	14	160 00
90,687	Ornatus .....	do .....	80	A. W. McKean, M.O. ....	Pleasantville .....	15	160 00
80,838	Ocean Bride .....	do .....	20	Simon Walter, M.O. ....	La Have .....	3	40 00
75,570	Olive Branch .....	do .....	14	Jno. Church .....	Aspotogan .....	3	28 00
85,647	Pembina .....	do .....	80	L. Anderson & Co., M.O. ....	Lunenburg .....	14	160 00
85,331	Parisian .....	do .....	80	Allan R. Morash .....	do .....	16	160 00
85,337	Parthenia .....	do .....	80	S. W. Oxner, M.O. ....	do .....	14	160 00
85,641	Pleroma .....	do .....	80	Wm. C. Smith .....	do .....	14	160 00
77,622	Pleasantville .....	do .....	80	Albert McKean .....	do .....	14	160 00
69,203	R. W. Smith .....	do .....	74	Alf. Heisler .....	do .....	12	148 00
85,349	Rise Over .....	do .....	80	Jno. Smeltzer .....	do .....	14	160 00
90,593	Ralph .....	do .....	51	J. D. Sperry .....	Petite Rivière .....	10	102 00
92,631	Ray .....	do .....	11	Henry Awalt .....	Aspotogan .....	2	22 00
85,133	Regina B .....	do .....	80	Reuben Ritcey, M.O. ....	La Have .....	11	153 33
85,737	Scylla .....	do .....	80	J. Eisenhauer .....	Lunenburg .....	17	160 00
85,350	Saxon .....	do .....	79	Geo. A. Ross, M.O. ....	do .....	12	158 00
90,863	Sadie .....	do .....	79	Chas. Smith, M.O. ....	do .....	12	158 00
36,473	Sky Lark .....	do .....	29	Leonard Young .....	do .....	6	58 00
88,605	S. A. Morash .....	do .....	80	Henry Greaser, M.O. ....	La Have .....	14	160 00
85,728	Selina .....	do .....	61	J. Schmeisler, M.O. ....	do .....	12	122 00
88,349	Senovar .....	do .....	80	Nathan Hiltz .....	Martin's River .....	14	160 00
92,629	Sea Queen .....	do .....	21	Geo. D. Young .....	Mill Cove .....	3	42 00
85,645	Sissie Belle .....	do .....	40	Henry Gerhart .....	South .....	9	80 00

a. Two of crew under age. b. One of crew paid as boat fisherman.

c. One of crew lost on 28th August, 1887.



DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc,—Nova Scotia—*Con.*

LUNENBURG COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
85,729	Tyrone.....	Lunenburg.....	80	Geo. Blair.....	Lunenburg.....	14	160 00
74,118	True Love.....	Halifax.....	30	Chas. Bell.....	La Have.....	7	60 00
92,623	Torridor.....	Lunenburg.....	80	Wm. McGregor, M.O.	do.....	16	160 00
88,609	Undaunted.....	do.....	47	W N. Reinhardt, M.O.	do.....	10	94 00
85,640	Virgin Belle.....	do.....	57	Frs. Conrad.....	Middle South.....	12	114 00
85,338	Viola.....	do.....	80	Alf. Heisler, M.O.....	Lunenburg.....	19	160 00
83,353	Violet.....	do.....	80	Simeon Hebb.....	do.....	12	160 00
85,334	Valorus.....	do.....	57	Benj. Lohnes.....	do.....	11	114 00
88,601	Virgilia.....	do.....	80	S. W. Oxner, M.O.....	do.....	17	160 00
85,735	Victory.....	do.....	80	A. H. Zwicker.....	do.....	14	160 00
90,597	Vivian.....	do.....	80	do.....	do.....	14	160 00
88,164	Valiant.....	do.....	80	Eph. Lohnes, M.O.....	La Have.....	12	160 00
88,609	Virgescoe.....	do.....	57	Albt. McKean, M.O.	Pleasantville.....	10	114 00
85,635	Vanilla.....	do.....	80	Jas. Romkey, M.O.....	La Have.....	14	160 00
83,174	W. E. Young.....	do.....	80	J. H. Wilson, M.O.....	Lunenburg.....	15	160 00
88,614	Welhelmina.....	do.....	54	Danl. Neal, M.O.....	La Have.....	10	108 00
74,147	Welcome.....	do.....	45	S. Walters, M.O.....	do.....	11	90 00

QUEEN'S COUNTY.

85,482	Angola.....	Liverpool.....	80	Jas. C. Innes & Co.	Liverpool.....	20	160 00
75,7-8	Coronila.....	do.....	64	Jas. H. Smith, M.O.	Brooklyn.....	12	128 00
75,620	Cordelia.....	Shelburne.....	15	Oliver Tupper.....	Port Lebert.....	3	30 00
85,344	Donzella.....	Lunenburg.....	80	Adam Selig.....	Vogler's Cove.....	14	160 00
83,308	Ella.....	Liverpool.....	10	Amos Martin.....	Liverpool.....	3	20 00
83,316	Lottie.....	Port Medway.....	80	Saml. E. Teel.....	Vogler's Cove.....	14	160 00
83,494	Lizzie Wharton.....	Liverpool.....	80	Colin McLeod, M.O.	Brooklyn.....	20	160 00
83,310	Myosotis.....	Port Medway.....	80	Asa Morine & Son.....	Port Medway.....	19	160 00
83,315	Mazurka.....	do.....	80	Wm. Vogler.....	Vogler's Cove.....	14	160 00
75,762	May Queen.....	Liverpool.....	17	Wm. W. Bartling.....	Liverpool.....	4	34 00
83,493	Mary O.....	do.....	80	Hendry & McMillan.....	do.....	18	160 00
92,3-3	Martha.....	do.....	11	Wm. Rhynard.....	do.....	2	22 00
83,314	Spartan.....	Port Medway.....	80	W. E. Cahoon.....	Port Medway.....	17	160 00
83,500	Stella.....	Liverpool.....	10	Joseph Winters.....	Liverpool.....	2	20 00
85,387	Topaz.....	Halifax.....	80	Hendry & McMillan.....	do.....	29	116 00

a. Eleven of crew did not fish full time.

RICHMOND COUNTY.

64,713	Amelia M.....	Pt. Hawkesbury.....	14	Andrew Boudrot.....	Gros Nez.....	3	28 00
77,544	Alpha.....	Arichat.....	43	William LeVesconte.....	D'Esrousse.....	10	84 00
35,996	Blue Bell.....	do.....	25	D. Gruchy & Sons.....	do.....	9	50 00
38,5-1	B. Weir & Co.....	do.....	25	William Keough.....	do.....	8	50 00
43,109	Chatham Head.....	Chatham, N.E.....	24	Dom. Fougère.....	Poulaumont.....	8	48 00
72,061	C. P. M.....	Arichat.....	22	Désiré Burke.....	River Bourgeois.....	26	40 86
38,439	Catherine.....	do.....	20	do.....	do.....	7	40 00
75,783	Crescent.....	do.....	27	A. Fougère, sen.....	do.....	7	54 00

a. One of the crew under age.



DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—*Con.*

RICHMOND COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
72,058	Daisy.....	Arichat.....	34	S. P. Richard.....	Arichat.....	3	68 00
61,606	Edmund Russel....	do.....	28	D. Boudrot.....	Petit de Grat....	5	56 00
38,477	Elizabeth.....	do.....	18	A Burke <i>et al.</i> .....	River Bourgeois	5	36 00
83,395	Elerie.....	Halifax.....	29	Charles Boudrot.....	do.....	6	58 00
77,843	Elizabeth.....	do.....	30	John Stairs.....	Halifax.....	8	60 00
77,822	Eliza Smith.....	Arichat.....	44	D. & A. Poirier.....	D'Escousse.....	8	88 00
57,733	Farewell.....	do.....	23	Abraham Sampson..	Chrichton Island	3	46 00
83,399	Fannie R. C.....	Halifax.....	22	Peter Boudrot.....	River Bourgeois..	6	44 00
38,326	Harriet.....	Arichat.....	26	Arthur Leblanc.....	Arichat.....	3	52 00
38,486	Julia.....	do.....	20	C. & W Burke.....	River Bourgeois	6	40 00
90,972	John Vincin.....	Sydney.....	17	David Sampson.....	do.....	6	34 00
42,217	Life Boat.....	Arichat.....	48	Peter Campbell.....	Arichat.....	12	96 00
72,070	Lennox.....	do.....	46	D. Gruchy & Son....	D'Escousse.....	10	92 00
76,875	Lida and Lizzie....	do.....	56	William LeVesconte	do.....	11	112 00
38,516	Lady of the Lake..	do.....	26	S. Dugas, M. O.....	River Bourgeois	7	52 00
72,072	Lady Fougère.....	do.....	11	Docité Fougère.....	do.....	4	22 00
72,071	Lumen Diei.....	do.....	20	Urban Sampson.....	do.....	7	40 00
83,100	Morning Star.....	Pt. Hawkesbury	13	A. Gerroir.....	Port Royal.....	2	26 00
61,902	Morning Star.....	Halifax.....	35	John Mauger.....	Arichat.....	9	70 00
46,082	Mary.....	Pt. Hawkesbury	43	D. Gruchy & Son....	D'Escousse.....	10	86 00
38,459	Mary Ann.....	Arichat.....	29	D & A Poirier.....	do.....	8	58 00
36,435	Mary Stephens.....	do.....	31	Patience Poirier....	Arichat.....	9	62 00
38,522	Mary.....	do.....	23	Isaiah Boudrot.....	River Bourgeois	7	46 00
72,047	Mary Moulton.....	do.....	26	Celestin Gordeau....	do.....	6	52 00
69,109	Marcella Butler....	Halifax.....	58	Daniel Fougère.....	do.....	8	76 00
38,413	Morning Star.....	Arichat.....	25	Aimable Pâté.....	do.....	8	50 00
72,063	May Flower.....	do.....	12	M. Burke and M. Fougère.....	French Cove.....	5	24 00
54,139	Ocean Belle.....	Halifax.....	20	A. & J. Boyd.....	River Bourgeois	6	40 00
88,451	Port Royal.....	Arichat.....	12	Edward Leblanc.....	Port Royal.....	2	24 00
72,067	Philomen D.....	do.....	22	T. Digout & D. Dugas	River Bourgeois	6	44 00
38,462	Partners.....	do.....	26	Thomas Sampson....	do.....	8	52 00
72,059	Richmond Queen..	Halifax.....	37	D. Gruchy & Son....	D'Escousse.....	8	74 00
42,281	Renfrew.....	do.....	42	S. & F. Poirier.....	do.....	10	84 00
51,781	S. E. Cove.....	Arichat.....	54	P. Campbell.....	Arichat.....	14	108 00
36,521	Shooting Star.....	do.....	33	William LeVesconte	D'Escousse.....	9	66 00
37,612	Sea Slipper.....	Lunenburg.....	41	Charles Mauger.....	do.....	10	82 00
38,480	Two Brothers.....	Arichat.....	32	Simon Landry.....	River Bourgeois	8	64 00
61,990	Union.....	Halifax.....	20	Felix Burke.....	do.....	7	40 00
37,056	Victory.....	Arichat.....	38	William LeVesconte	D'Escousse.....	10	76 00
38,523	Victoria.....	do.....	24	P. & H. Burke.....	French Cove.....	7	48 00
88,518	W. F. Elizabeth....	Sydney.....	10	Samuel Burke.....	do.....	4	20 00

SHELBURNE COUNTY.

85,479	Alina.....	Shelburne.....	80	Churchill Locke.....	Lockeport.....	10	160 00
83,051	Ardella.....	do.....	80	Jonathan Locke.....	do.....	17	155 29
88,552	Afton.....	do.....	72	J. & E. C. Locke...	do.....	13	144 00
85,563	Alice Louise.....	Barrington.....	80	N. D. McGray.....	Cape Island.....	17	160 00

a. One of the crew belongs to Newfoundland.

# DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—Con.

## SHELBURNE COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
85,567	Annie Robertson...	Barrington .....	80	W. Wallace Kenney	Lockeport.....	16	160 00
77,758	Bride .....	Shelburne .....	78	John Purney .....	Shelburne .....	16	156 00
85,490	Billy Browne .....	do .....	80	Johnson & Churchill	Lockeport .....	18	160 00
85,561	Cape Sable .....	Barrington .....	80	N. D. McGray .....	Cape Island .....	14	160 00
66,722	C. Averett .....	Liverpool .....	19	A. Goreham .....	Wood's Harbor .....	3	38 00
61,905	Champion .....	do .....	14	J. W. Hopkins .....	Barrington .....	6	28 00
65,624	Devina .....	Shelburne .....	52	Austen Locke .....	Lockeport .....	9	104 00
83,057	Edward Blake .....	do .....	80	Johnson & Churchill	do .....	6	160 00
83,043	Ella A. Downie .....	do .....	72	Johnson & Churchill	do .....	16	144 00
88,541	Edward T. Russel.	do .....	78	W. W. Kenney .....	do .....	13	156 00
77,603	Eldon C. ....	Barrington .....	27	John E. Hopkins .....	Barrington .....	8	54 00
85,476	Fleetwing .....	Shelburne .....	11	E. Hammond .....	Jordan Bay .....	4	22 00
83,047	Festina Lente .....	do .....	80	Austen Locke .....	Lockeport .....	17	169 00
71,333	Freddie M. Reynolds	Barrington .....	35	Cornelius Snow .....	Port Latour .....	7	70 00
88,557	Golden Oriole .....	Shelburne .....	80	C. Locke & Co. ....	Lockeport .....	14	160 00
85,555	G. C. Kelly .....	do .....	80	S. Locke & Sons .....	do .....	16	160 00
85,478	Glenora .....	do .....	75	S. Locke & Sons .....	do .....	11	150 00
90,428	G. J. Wrayton .....	Barrington .....	37	A. M. Wrayton .....	Barrington .....	11	74 00
85,568	Georgie Harold .....	do .....	80	W. W. Kenney, M. O.	Lockeport .....	16	160 00
85,563	Helena Maud .....	do .....	80	John H. Lyons, M. O.	Barrington .....	16	160 00
85,570	Hattie Dell .....	do .....	80	Eph. Larkin, M. O.	do .....	15	160 00
85,566	J. Lyons .....	do .....	15	John Lyons .....	do .....	4	30 00
61,566	John Purney .....	Shelburne .....	66	John Purney .....	Shelburne .....	12	132 00
61,572	John Halifax .....	do .....	63	O. Taylor .....	Port Latour .....	14	126 00
85,569	Jessie B .....	Barrington .....	36	Thos. D. Crowell, M. O.	Shag Harbor .....	12	72 00
88,554	Jersey Lily .....	Shelburne .....	80	Johnson & Churchill	Lockeport .....	17	160 00
73,987	Katie .....	Liverpool .....	14	Daniel Cronan .....	do .....	4	28 00
77,761	Knight Templar .....	Shelburne .....	80	Johnson & Churchill	do .....	17	160 00
90,642	Komaroff .....	Yarmouth .....	10	Warren Crowell .....	Shag Harbor .....	3	20 00
74,051	Kate McKinnon .....	Barrington .....	73	Randall McKinnon .....	Cape Sable Isl'd .....	18	146 00
54,114	Lone Star .....	Halifax .....	29	C. Locke & Co. ....	Lockeport .....	8	58 00
90,429	Lettie May .....	Barrington .....	10	Thomas Banks .....	Barrington .....	4	20 00
61,837	Laughing Waters .....	Yarmouth .....	32	Raymond Wilson .....	do .....	6	64 00
85,480	M. & A. Morrison .....	Shelburne .....	80	Don. Morrison .....	Jordan Bay .....	17	160 00
88,556	Mary .....	do .....	80	Jno. A. McGowan, jr.	Shelburne .....	16	160 00
77,746	Magellan Cloud .....	do .....	80	Wm. Thorbourn .....	Jordan Bay .....	14	160 00
74,868	Maggie Roach .....	do .....	43	Johnson & Churchill	Lockeport .....	11	86 00
85,488	Mabel Somers .....	do .....	80	Johnson & Churchill	do .....	17	160 00
88,543	Max O'Rell .....	do .....	80	Churchill Locke .....	do .....	10	160 00
85,477	Myrtle .....	Barrington .....	80	D. V. Kenney .....	Cape Sable Isl'd .....	15	160 00
83,060	Nellie Morrow .....	Shelburne .....	80	C. Locke & Co. ....	Lockeport .....	16	160 00
88,546	Nellie M. Johnston	do .....	80	Churchill Locke .....	do .....	13	160 00
83,052	Nautilus .....	do .....	11	James Roach .....	West Head .....	4	22 00
85,562	Oressa .....	Barrington .....	14	Alex. Smith .....	Blanche .....	4	28 00
55,830	Oregon .....	Shelburne .....	20	John O. McGray .....	Cape Sable Isl'd .....	3	40 00
75,628	Rover .....	do .....	80	Jonathan Locke .....	Lockeport .....	17	160 00
85,483	Sarah H. Seeton .....	do .....	80	C. Locke & Co. ....	do .....	15	160 00
74,365	Stella .....	do .....	52	Wm. Lloyd, jr. ....	Brighton .....	12	104 00
37,523	Snow Drop .....	Liverpool .....	30	James Crowell .....	Port Latour .....	6	60 00
77,759	Thomas Robertson	Shelburne .....	66	Austen Locke .....	Lockeport .....	16	132 00
88,542	Three Bells .....	do .....	80	Austen Locke .....	do .....	14	160 00
85,487	Willie McGowan .....	do .....	80	J. A. McGowan, jr.	Shelburne .....	21	160 00
77,744	Whip-poor-Will .....	do .....	15	Alf. Harding .....	Rockland .....	5	30 00
46,091	Wave .....	do .....	19	Wilson Trefry .....	Barrington .....	61	25 33

b. Two of crew did not fish 3 months.

DETAILED STATEMENT of Fishing Bounties paid to **Vessels, etc.**—Nova Scotia—*Con.*

VICTORIA COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
83,086	Ada M. ....	Pt. Hawkesbury.	20	P. W. Grouchey ....	D'Esconsse .....	5	40 00
77,858	Sambo .....	Sydney. ....	14	John Campbell ....	3 Mountain ...	3	28 00
92,593	Thomas Parnell ...	do .....	10	Simon Hawley .....	South Bay .....	3	20 00

YARMOUTH COUNTY.

90,655	Annina. ....	Yarmouth .....	11	Hilaire Bourque ...	Eel Brook .....	3	22 00
88,547	Arthur. ....	Shelburne .....	80	H. B. Cann. ....	Yarmouth .....	18	160 00
90,660	Alice May. ....	Yarmouth. ....	18	Thos. A. Crosby. ...	Cheboque .....	5	36 00
75,733	Alfred. ....	do .....	46	Parker, Eakins & Co	Yarmouth .....	10	92 00
75,721	Angeline. ....	do .....	67	do .....	do .....	11	134 00
90,653	Alba. ....	do .....	58	J. R. Rogers. ....	do .....	19	116 00
88,586	Alma. ....	do .....	18	Simon P. White. ....	Abram's River. ...	4	36 00
71,007	Alfarata .....	do .....	48	James Amiro. ....	West Pubnico. ...	16	96 00
80,647	Annie M. Bell. ....	do .....	64	Leon V. Amiro, M O	Pubnico .....	14	128 00
80,627	Annie D. ....	do .....	70	Geo. D. D'Entremont	do .....	14	140 00
71,030	Arizona. ....	do .....	80	S. D. D'Entremont.	do .....	14	160 00
61,595	Annie Louisa. ....	Shelburne .....	39	Harvey Goodwin. ...	do .....	16	78 00
88,598	Alph. B. Parker. ...	Yarmouth. ....	39	Hilaire Leblanc ....	Tusket Wedge. ...	11	78 00
66,683	Ballarose. ....	do .....	40	A. L. D'Entremont.	West Pubnico. ...	a2	50 00
74,320	Brenton. ....	do .....	70	Parker, Eakins & Co	Yarmouth .....	12	140 00
80,644	Beatrice. ....	do .....	80	A. F. Stoneman & Co	do .....	16	160 00
71,028	Barbaroni. ....	do .....	80	Chas. J. D'Eon. ....	Pubnico .....	15	160 00
66,662	Brisk. ....	do .....	67	Leon D'Eon. ....	do .....	20	134 00
85,549	Byron. ....	do .....	80	Byron Hines. ....	do .....	22	160 00
69,217	Chlorus. ....	do .....	57	A. F. Stoneman & Co	Yarmouth .....	11	114 00
85,536	Circassian. ....	do .....	80	Wm. Ryder. ....	Lower Argyle. ...	16	160 00
80,605	Coral Leaf. ....	do .....	71	Geo. B. Goodwin. ...	West Pubnico. ...	18	142 00
90,871	Dora. ....	do .....	63	A. F. Stoneman & Co	Yarmouth .....	18	126 00
66,679	Diploma. ....	do .....	80	Louis D'Eon. ....	West Pubnico. ...	18	160 00
90,878	Electra. ....	do .....	61	H. B. Cann. ....	Yarmouth .....	4	122 00
75,754	E. L. Perkins. ....	do .....	46	A. F. Stoneman & Co	do .....	4	92 00
85,552	Edith A. ....	do .....	80	Geo. D. D'Entremont	Pubnico .....	13	160 00
80,646	Emma S. ....	do .....	80	Ben. Leblanc. ....	Tusket Wedge. ...	21	160 00
85,551	Ethel. ....	do .....	80	J. H. Porter & Co. ...	do .....	19	160 00
75,720	Florence B. Parr. ...	do .....	80	Parker, Eakins & Co	Yarmouth .....	14	160 00
90,635	Fly. ....	do .....	15	J. R. Rogers. ....	do .....	3	30 00
90,654	Flora. ....	do .....	64	David D'Entremont.	Pubnico .....	19	128 00
88,599	Guide. ....	do .....	38	J. R. Rogers. ....	Yarmouth .....	9	76 00
85,554	Hazel Glen. ....	do .....	80	Ed. B. Goodwin. ...	East Pubnico. ...	20	160 00
80,643	Hazel Dell. ....	do .....	80	Ferdinand Leblanc.	Pubnico .....	20	160 00
75,867	Ida Peters. ....	do .....	32	Parker, Eakins & Co	Yarmouth .....	6	32 00
88,584	Index. ....	do .....	17	Jno. M. Smith. ....	do .....	3	34 00
85,560	Jacques. ....	do .....	58	J. R. Rogers. ....	do .....	12	116 00
88,641	Jonathan. ....	do .....	68	David L. Amiro. ....	Pubnico. ....	16	136 00
88,581	Kingfisher. ....	do .....	47	A. F. Stoneman & Co	Yarmouth .....	16	94 00
71,005	Kelso. ....	do .....	80	J. H. Porter & Co. ...	Tusket Wedge. ...	16	160 00
80,624	Lima. ....	do .....	12	N. B. Lewis. ....	Yarmouth .....	e3	19 20
61,587	Lucretia Jane. ....	do .....	80	J. R. Rogers. ....	do .....	13	160 00
61,788	Lynx. ....	do .....	59	do .....	do .....	16	118 00

a. 6 of crew did not fish full time.  
e. 2 of crew did not fish 3 months.

b. Crew did not fish 3 months.



DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Nova Scotia—Con.

YARMOUTH COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.	
							\$	cts.
51,972	Lydia Ryder .....	Yarmouth .....	57	Ls. P. D'Entremont	West Pubnico...	19	114	00
80,614	Louise .....	do .....	80	J. H. Porter & Co...	Tusket Wedge...	20	160	00
80,632	Lumen .....	do .....	30	do .....	do .....	12	60	00
74,012	Mystic .....	do .....	79	James M. Davis.....	Yarmouth.....	15	158	00
85,539	Maggie Jane.....	do .....	12	J. H. Foote.....	Sandford.....	43	21	00
74,339	Maitland.....	do .....	45	N. B. Lewis .....	Yarmouth.....	16	90	00
76,550	Martino .....	Barrington .....	12	Aug. A. Amiro.....	L. E. Pubnico...	3	24	00
61,510	Mansimalo.....	Shelburne .....	50	Emi D'Entremont..	West Pubnico...	18	100	00
80,648	Maria.....	Yarmouth .....	80	Byron Hines.....	Pubnico .....	14	160	00
88,596	M. A. Louis .....	do .....	64	Marc. A. Surette, M.O	West Pubnico...	19	128	00
90,874	Maggie Bell.....	do .....	10	Doctrove Surette....	Pinkney's Point	5	20	00
74,330	Nekomis.....	do .....	68	J. R. Rogers.....	Yarmouth.....	14	136	00
90,659	N. A. Laura.....	do .....	59	Julien D'Entremont.	West Pubnico...	19	118	00
85,553	Onyx .....	do .....	80	Parker, Eakins & Co	Yarmouth.....	16	160	00
80,645	Opal.....	do .....	80	do .....	do .....	16	160	00
66,675	Olika .....	do .....	53	J. H. Porter & Co...	Tusket Wedge...	17	106	00
90,877	Partridge .....	do .....	47	J. R. Rogers .....	Yarmouth .....	8	94	00
74,332	Proditor .....	do .....	54	Zacharie D'Eon ...	West Pubnico ...	17	108	00
80,628	Roseneath.....	do .....	80	Byron Hines ...	Pubnico.....	18	160	00
71,037	River Rose .....	do .....	53	Chas. M. Boudreau.	Tusket Wedge...	18	106	00
71,031	Sarah J. Killam...	do .....	51	A. F. Stoneman & Co	Yarmouth .....	15	102	00
88,589	Sandford .....	do .....	20	Abram Thurston ...	Sandford .....	5	40	00
57,150	Salvador .....	do .....	53	Ambroise D'Eon ...	Pubnico.....	16	106	00
90,648	Stranger .....	do .....	15	Chas. N. Nickerson	do .....	7	30	00
75,724	Sea Foam .....	do .....	75	J. H. Porter & Co...	Tusket Wedge...	16	150	00
85,535	Sigefroi .....	do .....	40	do .....	do .....	14	80	00
88,597	Uncle Sam.....	do .....	80	Geo D. D'Entremont	Pubnico .....	17	160	00
75,749	Vivid .....	do .....	44	Parker, Eakins & Co	Yarmouth.....	15	88	00
80,629	Winnie L.....	do .....	80	J. R. Rogers.....	do .....	15	160	00
66,685	Wide Awake .....	do .....	77	A. F. Stoneman & Co	do .....	16	154	00
61,579	Will-o'-the-wisp...	do .....	41	Julien D'Entremont	West Pubnico ...	15	82	00
57,101	Young Scotland...	do .....	47	J. H. Porter & Co...	Tusket Wedge...	15	94	00

d. 1 of crew did not fish 3 months.



## DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Continued.

## PROVINCE OF NEW BRUNSWICK.

## CHARLOTTE COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
83,469	Austin, P. ....	St. Andrew's....	12	Thos. Richardson ...	Deer Island.....	4	24 00
52,065	Adelia .....	Windsor, N.S....	17	E. & W. D. Wright.	Beaver Harbor...	3	34 00
92,506	Annie G. ....	St. Andrew's....	10	S. Mitchell. ....	Wilson's Beach.	3	20 00
88,283	Annisguam. ....	do .....	26	G. R. Batson. ....	Campobello.....	a4	46 80
88,288	Annie May .....	do .....	11	Lewis Frankland....	White Head Isle.	2	22 00
59,311	Blooming Rose ...	do .....	19	Aaron Cooke .....	Deer Island.....	5	38 00
64,011	Bee .....	Digby, N.S. ....	12	Robert Shaw, sen ...	Lepreaux.....	5	24 00
88,409	Carrie .....	do .....	12	James McLeese.....	Back Bay. ....	3	24 00
35,338	Caroline .....	St. Andrew's....	18	J. M. Lord & H.			
				Stuart .....	Deer Island ....	3	36 00
59,375	Cadet .....	do .....	13	Charles Savage ....	Wilson's Beach ..	3	26 00
88,290	Crusoe .....	do .....	13	James Starkey.....	St. Andrew's....	3	26 00
92,503	Defiance.....	do .....	17	Frank Calder .....	Campobello .....	4	34 00
88,280	E. B. Lane .....	do .....	12	Joseph McGee .....	Back Bay. ....	b2	20 00
88,281	Eastern State .....	do .....	22	Isabella Haskins..	Mascarene .... }	3	44 00
				{ N. Dick .....	Back Bay..... }		
59,373	E. M. Oliver .....	do .....	14	J. & W. J. Oliver..	do .....	c2	19 60
92,505	Edith N. ....	do .....	47	Lincoln Richardson	Deer Island.....	8	94 00
80,803	Exenia .....	Windsor, N.S....	18	Wm. F. Parker, M.O	Beaver Harbor...	4	36 00
59,391	Eliza Ann .....	St. Andrew's....	12	G. & Wm. J. Morse.	White Head ....	2	24 00
92,502	Elizabeth Ann....	do .....	14	Jas. Thompson and			
				T. Haggarty.....	Lepreaux.....	3	28 00
77,968	Empress .....	do .....	14	G. & M. Caffary....	Mace's Bay. ....	3	28 00
80,882	Ella Mabel .....	do .....	14	Robert Ross .....	St. Andrew's....	3	28 00
88,286	Eagle .....	do .....	11	Joseph Richardson..	Grand Manan....	3	22 00
51,748	Frank L. Dixon ...	do .....	18	Emery A. Grearson.	St. George .....	3	36 00
80,001	Florence .....	St. John.....	15	E. C. Bowers .....	Westport, N.S..	3	30 00
59,400	Foam Belle.....	St. Andrew's....	10	T. Ellsworth .....	Crow Harbor....	3	20 00
88,276	Falcon .....	do .....	12	Wm. Brown .....	Wilson's Beach .	3	24 00
83,480	Fred. Taylor .....	do .....	13	Joseph Boyd .....	do .....	3	26 00
92,511	Fleetwing .....	do .....	12	Nehemiah Mitchell, jr	Campobello.....	2	24 00
77,963	Freeman Colgate.	do .....	26	A. & G. English ...	Deer Island. ....	4	52 00
59,396	Gertie Westbrook.	St. Andrews ....	10	James Cline.....	Deer Island .....	4	20 00
92,508	Grey Eagle.....	do .....	11	Elizabeth Best and			
				G. Bates .....	Beaver Harbor...	2	22 00
75,728	George Killam....	Digby, N.S. ....	30	Jno. Magranahan ...	Margaretville, N.		
				S .....	do .....	d 3	48 00
83,463	Havelock.....	St. Andrews....	33	Wm. James .....	Wilson's Beach .	e 3	57 75
59,394	Hattie .....	do .....	10	Chas. Harkins .....	Dipper Harbor...	3	20 00
64,006	Jessie Lent. ....	St. John.....	28	L. B. Mitchell .....	Bocabec .....	4	56 00
83,464	Little Annie.....	St. Andrews ....	19	Jacob Cook .....	Le Tete .....	5	38 00
88,273	Lillian E. ....	do .....	13	Andrew McGee .....	Back Bay. ....	f 2	19 50
59,342	Lizzie S. McGee...	do .....	14	do .....	do .....	g 2	21 00
59,395	Little Minnie. ...	do .....	11	Geo. Douglas .....	Le Tete .....	3	22 00
83,474	Letter B .....	do .....	12	David Kelly.....	do .....	3	24 00
59,388	Letitia .....	do .....	10	T. & A. F. Johnson.	Deer Island.....	3	20 00
59,118	Linet.....	St. John.....	29	Chas. Trynor .....	Pennfield. ....	3	58 00
83,472	Linden.....	St. Andrews....	12	Galba Brown.....	Wilson's Beach .	3	24 00

a. One of crew paid in a boat.

c. Three of crew did not fish three months.

d. Two of crew did not fish full time.

f. Two of crew short in time.

b. One of crew did not fish full time.

e. One of crew paid bounty in a boat.

g. Two of crew did not fish full time.

**DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—New Brunswick —**  
*Continued.*

**CHARLOTTE COUNTY—Concluded.**

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							<div> <div>\$</div> <div>cts.</div> </div>
88,407	Linnet.....	Digby, N.S. ....	15	Alva Brown .....	Wilson's Beach..	3	30 00
77,965	Lydia B. ....	St. Andrews .....	12	J. M. & W. Calder...	Campobello.....	3	24 00
59,321	Little Nell.....	do .....	21	Wm. McLellan.....	do .....	6	42 00
75,598	Lizzie Jane.....	Digby, N.S. ....	18	John W. Snow .....	Digby, N.S. ....	h 2	24 00
80,881	Lena May .....	St. Andrews .....	18	Edward Mathews .....	Le Tete. ....	i 3	31 50
83,465	Look Out.....	do .....	48	A. W. Ingersoll ....	Grand Manan....	5	96 00
59,326	Maud Holmes..	do .....	21	Jacob Cook .....	Le Tete. ....	7	42 00
38,109	Mary .....	Yarmouth, N.S....	17	James Thompson....	Black Harbor....	3	34 00
92,514	Maggie Lane ..	St. Andrews.....	10	Mrs. V. Cook .....	St. George. ....	2	20 00
88,277	Maggie Jane....	do .....	18	S. B. Cross, M. O. ....	Beaver Harbor..	4	35 00
88,271	Magellan Cloud..	do .....	20	Simon Brown .....	Wilson's Beach..	4	40 00
59,125	Mount Whatley..	St. John .....	28	Hugh Belmore.....	Dipper Harbor..	5	56 00
80,034	Mabel .....	St. Andrews .....	12	Andrew Lamb .....	St. Andrews....	4	24 00
92,509	Mary Jane.....	do .....	13	Wilford Calder .....	Campobello.....	3	26 00
88,402	Mizpah. ....	Digby, N.S. ....	53	Eben Gaskill .....	Grand Manan ..	11	106 00
72,501	Maby .....	St. Andrews .....	11	John Kelly .....	White Head .....	2	22 00
64,029	Norman B .....	Digby, N.S. ....	20	Howard Jackson....	Wilson's Beach..	4	40 00
77,967	Naomi. ....	St. Andrews .....	14	Wm. James.....	do .....	4	28 00
59,385	Onward .....	do .....	19	Willard Brown .....	Grand Manan ..	3	38 00
52,174	Pilot .....	St. John.....	12	Wm. Cline, sen .....	Deer Island.....	2	24 00
59,383	Pilgrims Progress.	St. Andrews .....	16	Arthur Porter .....	Campobello .....	3	32 00
75,591	Rise and Go ..	do .....	16	Wm. Sirls .....	Wilson's Beach ..	4	32 00
42,081	Randolph P.....	Digby, N.S. ....	15	D. J. Malloch .....	Campobello .....	5	30 00
38,284	Sea Foam .....	St. Andrews.....	13	D. & E. Leavitt.....	Back Bay .....	3	26 00
88,279	Senator .....	do .....	33	Wm. L. Carr.....	Deer Island.....	j 5	60 50
59,322	Sea Flower.....	do .....	11	P. Hutton & A. Eldridge .....	Beaver Harbor...	3	22 00
88,287	Sattelite .....	do .....	26	M. Eldridge and E. Wadlin .....	do .....	4	52 00
88,272	Simeon H. Bell ..	do .....	14	Geo. Kirkpatrick....	Wilson's Beach ..	3	28 00
59,357	Silver Bell.....	do .....	13	Peter Malloch .....	do .....	3	26 00
59,387	Telephone.....	do .....	19	Joseph McGee .....	Back Bay .....	6	38 00
88,414	Trumpet .....	St. John.....	20	A. W. Holmes .....	Beaver Harbor...	4	40 00
92,504	Tiger .....	St. Andrews .....	15	Thos. Mitchell .....	Campobello .....	3	30 00
88,282	Veritas.....	do .....	10	Enoch Mathews .....	Le Tete .....	2	20 00
83,468	Village Belle ..	do .....	15	Allan P. Dixon .....	North Head .....	3	30 00
35,331	Victory .....	do .....	16	Frank Campbell .....	Dipper Harbor...	3	32 00
77,967	Wave Queen.....	do .....	11	Wm. McMahon .....	Le Tete .....	3	22 00

*h.* Four of crew short in time.

*j.* One of crew paid bounty in a boat.

*i.* One of crew paid in another vessel.

**GLOUCESTER COUNTY.**

72,099	Adelina .....	Chatham.....	12	Auguste Poulin.....	Lameque .....	3	24 00
72,079	Betsy .....	do .....	13	Cyrenus Gionet.....	Shippegan .....	3	26 00
61,431	Bee .....	do .....	11	Paul Noel .....	Lameque .....	3	22 00
83,102	Evangeline.....	do .....	74	K. F. Burns, M.O. ....	Bathurst .....	11	148 00
61,437	Flying Fish.....	do .....	11	Elie Chiasson .....	Lameque .....	2	22 00
61,445	Flavie.....	do .....	13	Theophile Duguay...	do .....	3	26 00

**DETAILED STATEMENT OF Fishing Bounties paid to Vessels, etc.—New Brunswick—**  
*Continued.*

**GLOUCESTER COUNTY—Concluded.**

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
61,425	Hope.....	Chatham.....	13	Chas. Robin & Co...	Caraquet.....	3	26 00
	Jean.....	do.....	13	D. Gallien.....	do.....	3	22 75
88,669	Morning Star.....	do.....	12	Gustave Gionet.....	Pokemouche.....	2	24 00
85,692	Mary.....	do.....	11	J. N. LeBoutellier...	Caraquet.....	3	22 00
61,447	Merida.....	do.....	13	André Aché.....	Lamèque.....	3	26 00
72,100	Marie.....	do.....	11	Onesime Chiasson...	do.....	4	22 00
72,077	Mary.....	do.....	12	Moses Dugué.....	Shippegan.....	3	24 00
61,442	Marie Cécile.....	do.....	15	Olivier Duguay.....	Lamèque.....	3	30 00
72,076	Providencee.....	do.....	12	Eutrope Dugué.....	Shippegan.....	3	24 00
61,406	Reward.....	do.....	11	J. N. LeBoutellier...	Caraquet.....	3	22 00
85,696	Rose.....	do.....	11	Marin Basque.....	Tracadie.....	3	22 00
92,404	Rosa.....	do.....	17	Octave Aché, sen...	Lamèque.....	4	34 00
74,401	Sara.....	do.....	11	Nazaire Noel.....	do.....	3	22 00
92,408	Sarah A. W.....	do.....	15	R. J. Wilson.....	Miscou Island...	3	30 00

a. One of crew short in time.

**KENT COUNTY.**

54,104	Annie C. Brown...	Halifax, N.S.....	59	Oswald Smith.....	Kingston.....	15	118 00
55,829	Emma McMillan...	Pictou, N.S.....	20	Rufus Palmer.....	do.....	6	40 00
66,257	Ino.....	Charlottetown, P.E.I.....	18	Stephen Legère.....	Lower Village...	2	26 00
35,548	Morning Star.....	Chatham.....	30	Anthony Arseneau...	Richibucto.....	4	60 00
75,899	Maria.....	do.....	16	Jos. Doucette, M.O.	Kingston.....	4	32 00
61,428	Mab.....	do.....	13	Jude Robicheau.....	Lower Village...	2	26 00
83,104	Minnie Long.....	Richibucto.....	19	Wm. Long.....	do.....	3	38 00
71,308	Sea Mouse.....	do.....	10	John Doucette.....	Kingston.....	3	20 00

**NORTHUMBERLAND COUNTY.**

61,417	Belle.....	Chatham.....	12	P. S. Bremner.....	Chatham.....	3	24 00
75,901	Bessie.....	do.....	13	John Hodd.....	do.....	3	26 00
75,904	Empress.....	do.....	26	Max. Martin.....	do.....	4	52 00
88,668	General Middleton	do.....	67	T. B. Williston.....	Baie du Vin.....	9	134 00
75,891	May Queen.....	do.....	23	Allan McEachern...	Chatham.....	4	46 00
61,373	Maria.....	do.....	28	W. S. Loggie.....	do.....	13	56 00
66,724	Nettie Cole.....	Liverpool, N.S...	13	A. & J. Adams.....	Neguac.....	a	13 00
78,044	Princess Louise...	Chatham.....	21	Robert J. Walls....	Chatham.....	4	42 00
75,895	Two Brothers.....	do.....	26	George T. Tait....	do.....	4	52 00

a. Crew not entitled to bounty.



**DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—New Brunswick—**  
*Continued.*

**ST. JOHN COUNTY.**

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid. \$ cts.
83,270	Alice May .....	St. John.....	10	Robt. Thompson....	S. Musquash.....	3	20 00
57,171	Anna Bell .....	St. Andrews ....	19	Jno. W. Baird, jun..	Pisarinco.....	4	38 50
72,192	Ada .....	St. John.....	19	Wm. J. Ewart <i>et al.</i>	do .....	4	38 70
79,977	Amanda Green....	do .....	15	Samuel Hutton....	Carleton .....	4	30 00
80,093	Anna K. ....	do .....	14	Wm. Spence .....	Portland .....	4	28 00
80,072	Buena Vista .....	do .....	14	John McNulty, sen..	Musquash .....	3	28 00
88,396	Brant .....	Windsor, N.S....	12	Wm. Hamilton.....	do .....	3	24 00
74,308	Bald Eagle.....	Yarmouth, N.S..	14	James Wilson.....	Portland .....	a2	21 00
85,972	Dove .....	St. John.....	11	Samuel McGuire....	Pisarinco West..	4	22 00
66,926	Emma .....	do .....	13	J. & D. Thompson..	Clarence Harbor	4	26 00
88,253	E. B. Colwell ....	do .....	19	A. N. Harned.....	Carleton .....	4	38 00
85,503	G. P. Taylor.....	do .....	13	D. G. Toole <i>et al.</i> ..	do .....	4	26 00
57,181	Hattie.....	Windsor, N.S....	13	S. Galbraith & R. Knox .....	Pisarinco.....	4	26 00
88,266	Lizzie Young.....	St. John.....	13	Nathaniel Young....	Irishtown.....	3	26 00
88,261	Little Joe .....	do .....	18	Joseph O'Brien. ....	Carleton .....	4	36 00
52,159	Mary E. ....	do .....	21	F. Buchanan.....	do .....	b3	36 00
59,370	Sparkling Billow..	St. Andrews.....	25	J. W. Belyea.....	do .....	4	50 00
72,973	Sea Breeze.....	Digby, N.S.....	13	Thomas Evans.....	St. John.....	3	26 00
59,156	Tom.....	St. John.....	14	Peter Boyle ....	Musquash .....	5	28 00
42,087	Two Sisters .....	Digby, N.S.....	14	Thomas Wilson.....	Pisarinco.....	3	28 00
59,313	U. S. Grant .....	Yarmouth, N. S..	33	J. & R. Hutton ....	Carleton .....	5	66 00
88,264	Walter J. Clarke ..	St. John.....	20	Geo. H. McAuley...	do .....	5	40 00
88,508	Zelena.....	do .....	14	S. W. Belyea, M.O..	do .....	c3	24 50

a. Two of crew did not fish three months.  
 crew did not fish three months.

b. One of crew did not fish full time.

c. One of



## DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Continued.

## PROVINCE OF PRINCE EDWARD ISLAND.

## KING'S COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
86,428	Albert.....	Charlottetown...	41	John Herring.....	Murray Harbor...	6	82 00
66,242	Amorette.....	do .....	18	Peter Roberts.....	do .....	5	36 00
83,196	Ethel Blanche.....	Pictou, N.S.....	12	R. Cahoon.....	do .....	5	24 00
92,457	Elmer E. Hawes...	Charlottetown...	41	James Hume.....	do .....	11	82 00
83,198	Harriet.....	Pictou, N.S.....	27	Wm. Reynolds.....	do .....	8	54 00
80,934	Harriet Torry.....	Charlottetown...	59	Jno. McLean.....	Souris.....	all	102 24
32,457	Jubilee.....	do .....	76	Dennis Murphy.....	do .....	15	152 00
75,566	Julia A.....	Lunenburg, N.S.	15	Jno. McKinnon.....	Murray Harbor...	3	30 00
75,882	Lord McDonald....	Charlottetown...	15	David Cahoon.....	do .....	3	30 00
69,220	Lorraine.....	Lunenburg, N.S.	68	Jno. McLean.....	Souris.....	10	113 30
80,937	Montague.....	Charlottetown...	16	Geo. Dunn.....	Murray Harbor...	4	32 00
83,095	Mary Margaret.....	Pt. Hawkesbury...	17	Alex. Jackson.....	do .....	5	34 00
90,621	Maggie Alice.....	Charlottetown...	79	James Lanigan.....	Souris.....	8	116 20
71,467	Ontario.....	do .....	43	Jno. Henderson.....	Murray Harbor...	7	86 00
90,623	Plow the Sea.....	do .....	74	Macdonald, Macdonald & Co.....	Souris.....	14	138 74
90,632	Samuel Drake.....	do .....	68	Wm. B. Taylor.....	Wood Island.....	10	113 30

a. Four of crew did not fish full time.

b. Five of crew short in time.

c. Nine of crew short in time.

d. Two of crew did not fish full time.

e. Five of crew short in time.

## PRINCE COUNTY.

71,302	Alice.....	Charlottetown...	10	Alex. McArthur....	Lot 14.....	3	20 00
72,081	Annie.....	Chatham, N.B....	13	Jno. McDonald....	Campbellton....	3	26 00
71,310	Black Watch.....	Richibucto, N.B.	23	Terence Farrell....	Alberton .....	6	46 00
82,086	Charlie.....	Charlottetown...	64	J. H. Myrick & Co.	Tignish .....	13	128 00
88,642	Express.....	do .....	47	John Champion....	Alberton .....	14	94 00
90,636	Gertie.....	do .....	42	Benj. Rogers.....	do .....	12	84 00
43,124	Industry.....	Chatham, N.B....	17	James B. Foley....	Waterford.....	4	34 00
57,263	J. Fraser.....	Charlottetown...	40	Joseph Ramsay, M.O.	Campbellton....	8	80 00
66,948	Lois.....	do .....	67	Jno. A. Matheson...	do .....	11	134 00
59,663	Lettie.....	do .....	57	J. H. Myrick & Co.	Tignish .....	15	114 00
77,619	Milford Guy.....	do .....	60	James S. Gordon...	Alberton .....	12	120 00
38,506	Margaret Jane.....	Arichat, N.S.....	42	Jno. Agnew.....	Summerside.....	5	77 00
75,489	Reality.....	Charlottetown...	39	J. H. Myrick & Co.	Tignish .....	11	78 00
69,717	Sylvanus McDonald.....	do .....	46	Jno. J. Chaisson...	do .....	13	92 00

a. One of crew short in time.

**DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Prince Edward Island—Continued.**

**QUEEN'S COUNTY.**

Official Number.	Name of Vessel.	Port of Registry.	Tonnage	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.	
							\$	cts.
88,641	Acad an.....	Charlottetown...	77	H. M. Churchill.....	Charlottetown...	14	154	00
37,614	Armada.....	Lunenburg, N.S.	45	Edward McLure.....	North Rustico....	27	71	25
85,799	Eddy.....	Charlottetown...	66	James Laird.....	New Glasgow....	13	132	00
42,993	Josephine.....	do	41	H. M. Churchill.....	Charlottetown...	11	82	00
74,015	Kohinoor.....	Lunenburg, N.S.	77	J. E. Grant.....	do	56	115	48
77,934	Lilly Dale.....	Charlottetown...	12	E. Marshall.....	North Rustico....	4	24	00
38,722	Onward.....	do	26	Geo. D. Longworth.	Charlottetown...	10	52	00
61,967	do	do	52	Alfred McLeod. ....	New London.....	10	104	00

a. Five of crew short in time.

b. Six of crew short in time.

## DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Continued.

## PROVINCE OF QUEBEC.

## GASPÉ COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
33,622	Admiration .....	Gaspé .....	60	Joseph Tripp. ....	Gaspé Basin.....	16	120 00
35,391	Colibre .....	Magdalen Isl'ds..	15	Camille Delaney, M O....	House Harbor....	a1	18 00
55,642	Delaney .....	do .....	44	do .....	do .....	b4	61 60
71,359	Emma Gidney .....	Halifax, N.S.....	48	Jamien Devaux ....	Havre Aubert. ....	10	96 00
85,391	Esperance.....	Magdalen Isl'ds..	31	Jean Bourgeois, <i>et al</i>	Aubert. ....	5	62 00
85,393	Formosa .....	do .....	43	F.H. & P.P. Delaney	House Harbor....	c8	74 28
73,029	F. P. T. ....	do .....	41	Camille Delaney, M O....	do .....	d5	58 10
69,378	Laurence .....	Gaspé .....	64	C. & X. Kennedy....	Douglastown....	7	128 00
55,644	Lion .....	Magdalen Isl'ds..	42	Cleophas Richard....	House Harbor....	e6	67 20
73,494	Marie Dolorosa....	do .....	44	Andre Devaux ....	do .....	8	88 00
73,021	Marie Anne .....	do .....	46	Wm. Terrieau.....	do .....	f10	87 82
73,025	Marie Euphrosyne	do .....	39	N. Arseneau.....	Grindstone.....	g6	62 40
75,577	Mary Ann Bell....	Lunenburg, N.S.	34	Jno. Arseneau, M.O	House Harbor....	h5	49 50
73,491	Mary Jane.....	Magdalen Isl'ds..	47	N. Arseneau....	do .....	i11	90 09
38,351	Nancy .....	Arichat, N.S.....	17	A. Cormier, <i>et al</i> ....	Amherst. ....	4	34 00
54,082	Pheasant.....	Magdalen Isl'ds..	32	J. N. Arseneau.....	House Harbor....	j5	52 00
41,923	Syntax .....	Charlottetown..	19	A. Poirier.....	Grand Entrée....	k1	25 34
73,027	Una .....	Magdalen Isl'ds..	41	O. Cheverie, M. O...	House Harbor....	l5	59 66

a. 4 of crew short in time.  
c. 3 of crew short in time.  
e. 4 of crew short in time.  
g. 4 of crew short in time.  
i. 1 of crew short in time.  
k. 2 of crew short in time.

b. 6 of crew short in time.  
d. 7 of crew short in time.  
f. 1 of crew short in time.  
h. 5 of crew short in time.  
j. 3 of crew short in time.  
l. 6 of crew short in time.

## SAGUENAY COUNTY.

74,270	Amarilda .....	Quebec .....	24	L. & M. Pineau....	Bic .....	3	48 00
85,756	Aristile .....	do .....	19	P. & V. Talbot.....	Natashquan.....	3	38 00
42,436	Amelia .....	Gaspé .....	50	P. Cormier & Bros...	Esquimaux Pt...	11	100 00
57,742	Acara .....	Halifax, N.S....	30	F. Jomphe .....	do .....	7	60 00
59,468	Bury .....	Quebec .....	39	Blais & Vigneau ....	do .....	5	78 00
83,370	C. M. G. P. ....	do .....	46	Geo. Picard .....	do .....	10	92 00
83,368	D. Talbot .....	do .....	10	Désiré Talbot, sen ..	Natashquan .....	3	20 00
61,966	D. Cronan .....	Halifax, N.S....	40	P. Lemarquand .....	Esquimaux Pt..	6	86 00
66,028	Emerillon .....	Quebec .....	14	Aug. Michaud .....	Isle Verte.....	3	28 00
92,336	Esperance.....	do .....	28	Henry Cormier, <i>et al</i>	Natashquan .....	3	56 00
59,909	Elizabeth .....	do .....	27	Luke Cormier.....	Esquimaux Pt...	8	54 00
80,754	Elzénie .....	do .....	48	Vigneau & Blais ....	do .....	8	36 00
85,754	Florida .....	do .....	26	H. Bourque .....	Natashquan .....	5	52 00
75,679	Gleaner .....	do .....	41	Simon Landry .....	Esquimaux Pt...	7	82 00
74,253	Hirondelle.....	do .....	62	Thos. Riverin .....	Malbaie .....	3	64 00
85,750	H. B. .....	do .....	57	Hypolite Boudreau..	Esquimaux Pt...	7	114 00
85,753	Java .....	do .....	46	Dom. Cormier.....	do .....	10	92 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—Quebec—*Con.*SAGUENAY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
							\$ cts.
80,755	La Marina.....	Quebec.....	18	Laurent Gallant...	Agwanus River.	3	36 00
42,435	Labrador.....	Gaspé.....	43	Placide Doyle.....	Esquimaux Pt...	8	86 00
77,868	Leodore.....	Quebec.....	39	Turgeon & Corri- veau .....	do .....	8	78 00
55,912	Marie Louise.....	do .....	14	Pierre Ouelette.....	Quebec.....	4	28 00
69,584	Marie Louise.....	do .....	23	H. Vigneault, <i>et al.</i>	Natashquan .....	4	46 00
42,434	Marguerite.....	Gaspé.....	27	Michel Giasson.....	Esquimaux Pt...	7	54 00
69,384	Marie du Sacre Cœur.....	do .....	46	Turbis, Briand & Landry .....	do .....	10	92 00
69,380	Marie Anne.....	do .....	36	E. Landry & Sons..	do .....	8	72 00
55,870	Notre Dame de la Garde.....	Quebec.....	23	Paul Vigneau.....	Natashquan .....	3	46 00
77,866	Pioneer.....	do .....	39	Lebrun & Picard...	Esquimaux Pt...	9	78 00
42,437	Progress.....	Gaspé.....	52	Boudreau & Leblanc	do .....	6	104 00
75,445	Phoenix.....	do .....	28	P. Vigneau & Bros..	do .....	7	56 00
73,026	Ste. Anne.....	Magdalen Islds.	20	F. X. Corriveau.....	do .....	3	40 00
75,675	Sancta Maria.....	Quebec.....	20	H. Landry, <i>et al.</i> ...	Natashquan .....	4	40 00
75,680	Sea Star.....	do .....	52	J. Poirier & S. Bou- dreau.....	do .....	5	104 00
80,753	Stella Maris.....	do .....	51	F. Cummings & Sons	Esquimaux Pt...	10	102 00
69,591	Ste. Marie.....	do .....	37	A. Sherrer.....	do .....	7	74 00
69,659	St. Joseph.....	do .....	18	Turgeon & Corri- veau.....	do .....	6	36 00



The following Vessels for 1886, held in abeyance, were paid in 1887-88.

PROVINCE OF NOVA SCOTIA.

DIGBY COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew.	Amount of Bounty Paid.
71,932	Arthur .....	Yarmouth .....	22	Holland Outhouse...	Tiverton.....	6	\$ cts. 44 00
74,328	J. D. Payson .....	do .....	42	G. W. Corning, <i>et al</i>	Port Maitland...	8	84 00
59,356	M. P. Reed .....	Annapolis .....	30	O. Sproul, M.O.....	Digby.....	4	60 00
77,618	May Queen .....	Barrington .....	34	J. W. Smith, M.O...	Westport.....	11	68 00
85,682	Malapert .....	Digby .....	23	James Glaven .....	do .....	9	46 00
72,977	Nellie H. Ham.....	do .....	26	Isaac Peters, M.O...	do .....	9	52 00

YARMOUTH COUNTY.

75,867	Ida Peters.....	St. John, N.B....	32	Parker, Eakins & Co	Yarmouth .....	a6	51 20
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a. Four of crew did not fish three months.

The following Vessels for 1886, held in abeyance, were paid in 1887-88.

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

59,319	Brisk .....	St. Andrew's....	20	Alfred Wadlin .....	Beaver Harbor..	3	40 00
53,466	Fannie May .....	do .....	19	Wm. G. Thompson.	Bocabec.....	3	38 00
51,748	Frank L. Dixon....	do .....	18	E. A. Grearson. ....	St. George .....	3	36 00
59,395	Little Minnie .....	do .....	11	Geo. Douglas .....	Letéte.....	3	22 00
59,118	Linnet .....	St. John.....	21	H. & C. Trynor.....	Penfield .....	4	42 00
39,314	Matilda .....	St. Andrews's....	28	M. Stinson.....	St. Andrew's .....	3	56 00
59,125	Mount Whatley....	St. John.....	28	Hugh Belmore.....	Dipper Harbor..	4	56 00
88,402	Mizpah .....	Digby, N S.....	53	Eben Gaskill.....	Grand Manan....	8	106 00
80,883	Ocean Queen.....	St. Andrew's....	21	Robert Ross .....	St. Andrew's....	3	42 00
52,174	Pilot .....	St. John.....	12	Wellington Cline....	Deer Island.....	2	24 00
77,731	Sparmaker .....	Digby, N S.....	24	John Magranahan...	Margaretsville...	5	48 00
75,544	Viola .....	St. Andrew's....	36	James Brayley .....	Grand Manan....	6	72 00
59,377	Xantho.....	do .....	23	Hugh McQuoid. ....	St. Andrew's....	3	46 00

ST. JOHN COUNTY.

38,212	Sparkling Gem ....	St. John.....	30	Wm. Finn .....	St. John. ....	5	60 00
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PROVINCE OF QUEBEC.

SAGUENAY COUNTY.

53,912	Marie Louise.. ....	Quebec.....	14	Pierre Ouellette.....	Quebec.....	4	28 00
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## COMPARATIVE STATEMENT of Fishing Bounties Paid, from 1882 to 1887.

Number.	Province.	County.	1882.			1883.			1884.		
			Vessels.	Boats.	Total.	Vessels.	Boats.	Total.	Vessels.	Boats.	Total.
			\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Nova Scotia.....	Annapolis.....	472 00	1,998 00	2,470 00	838 00	1,207 50	2,045 50	648 00	1,503 50	2,151 50
2		Antigonish.....	.....	840 00	840 00	.....	482 50	482 50	.....	799 50	799 50
3		Cape Breton.....	294 00	5,167 00	5,461 00	436 00	2,853 50	3,289 50	383 00	3,909 00	4,292 00
4		Colchester.....	.....	.....	.....	.....	.....	.....	64 00	.....	64 00
5		Gumbrland.....	.....	20 00	20 00	.....	.....	.....	.....	7 50	7 50
6		Digby.....	1,436 00	4,118 66	5,554 66	2,652 00	2,182 50	4,834 50	2,322 84	2,234 50	5,557 34
7		Guysboro'.....	2,380 73	7,913 75	10,294 48	2,914 00	4,645 00	7,559 00	3,371 90	6,485 50	9,857 40
8		Halifax.....	3,599 50	11,118 31	14,717 81	6,020 00	6,080 50	12,100 50	5,834 00	7,898 00	13,732 00
9		Inverness.....	950 00	5,432 00	6,382 00	572 00	3,422 50	3,994 50	1,208 00	4,522 00	5,730 00
10		King's.....	46 00	125 00	171 00	146 00	157 50	303 50	196 00	70 50	266 50
11		Lunenburg.....	15,161 03	3,112 00	18,273 03	17,658 00	1,850 00	19,508 00	19,648 24	3,162 00	22,810 24
12		Pictou.....	202 00	95 00	297 00	202 00	120 00	322 00	177 76	107 50	285 26
13		Queen's.....	1,638 00	1,917 00	3,555 00	1,826 00	810 00	2,636 00	2,408 00	836 50	3,244 50
14		Richmond.....	3,853 15	7,998 50	11,851 65	3,558 00	4,225 00	7,783 00	3,266 58	6,325 50	9,591 58
15		Shelburne.....	7,294 00	4,332 00	11,626 00	8,744 00	2,326 50	11,070 50	8,928 27	2,781 50	11,709 77
16		Victoria.....	284 00	4,861 00	5,145 00	492 00	2,830 50	3,322 50	60 00	4,045 50	4,105 50
17		Yarmouth.....	7,825 09	1,615 00	9,440 09	9,486 00	695 00	10,181 00	9,758 00	971 50	10,729 50
18		Totals.....	45,435 50	60,663 22	106,098 72	55,514 00	33,888 50	89,432 50	59,274 59	45,669 50	104,934 09
19	New Brunswick..	Charlotte.....	2,140 00	5,641 00	7,781 00	2,380 00	2,830 00	5,210 00	2,792 00	3,035 00	5,827 00
20		Gloucester.....	422 00	5,368 00	5,790 00	492 00	3,568 50	4,060 50	508 00	4,799 00	5,307 00
21		Kent.....	768 00	965 00	1,733 00	266 00	1,197 50	1,463 50	246 00	784 50	1,010 50
22		Northumberland	.....	45 00	45 00	68 00	52 50	120 50	66 00	68 00	134 00
23		Restigonche.....	28 00	.....	28 00	52 00	.....	52 00	.....	.....	.....
24		St. John.....	984 00	591 00	1,575 00	861 20	587 50	1,448 70	956 00	260 00	1,216 00
25		Westmoreland..	.....	45 00	45 00	.....	40 00	40 00	.....	81 50	81 50
26		Totals.....	4,342 00	13,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00

27	P. E. Island.....	King's .....	252 00	5,024 00	5,276 00	293 14	2,790 50	3,083 64	475 44	3,028 00	3,503 44
28	Prince.....	316 00	6,709 00	7,035 00	418 00	3,429 50	3,847 50	3,642 00	520 00	3,642 00	4,182 00
29	Queen's.....	210 00	3,626 00	3,836 00	96 00	1,550 00	1,646 00	1,473 50	65 02	1,473 50	1,538 52
30	Totals .....	778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	8,143 50	1,060 46	8,143 50	9,203 96
31	Quebec .....	Bonaventure.....	.....	8,945 00	.....	3,846 50	3,846 50	5,508 00	.....	5,508 00	5,508 00
32	Gaspé.....	2,070 00	17,899 75	19,969 75	2,152 00	9,302 50	11,454 50	13,879 50	1,906 00	13,879 50	15,785 50
33	Saguenay .....	2,350 00	1,773 00	4,123 00	2,320 01	2,319 00	4,639 01	4,687 50	2,023 93	4,687 50	6,711 43
34	Temiscouata.....	.....	15 00	15 00	.....	.....	.....	.....	.....	.....	.....
35	Totals .....	4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	24,075 00	3,929 93	24,075 00	28,004 93

## RECAPITULATION.

36	Nova Scotia.	.....	45,435 50	60,663 22	108,693 72	55,544 00	33,838 50	89,432 50	59,274 59	45,659 50	104,934 09
37	New Brunswick.	.....	4,342 00	12,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00
38	P. E. Island.....	.....	778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	1,060 46	8,143 50	9,203 96
39	Quebec.....	.....	4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	3,929 93	24,075 00	28,004 93
40	Totals .....	54,975 50	117,309 97	172,285 47	64,942 35	65,402 50	130,344 85	86,886 00	68,832 98	86,886 00	155,718 98



COMPARATIVE STATEMENT of Fishing Bounties Paid, from 1882 to 1887.

Number.	1885.				1886.				1887.				Grand Total.
	Vessels.		Boats.		Vessels.		Boats.		Vessels.		Boats.		
	Amount.	Total.	Amount.	Total.	Amount.	Total.	Amount.	Total.	Amount.	Total.	Amount.	Total.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	430 08	1,610 08	1,180 00	431 60	1,663 50	1,495 10	1,663 50	305 27	1,162 00	1,467 27	1,162 00	11,239 45	
2	.....	982 50	832 00	.....	832 00	832 00	.....	.....	924 50	924 50	924 50	4,861 00	
3	210 00	4,222 50	392 00	392 00	3,765 00	4,157 00	374 14	3,600 00	3,600 00	3,974 14	3,600 00	25,396 14	
4	74 00	74 00	74 00	74 00	.....	74 00	74 00	.....	.....	74 00	.....	286 00	
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27 50	
6	3,036 02	5,029 02	1,993 00	2,131 79	1,924 50	4,056 29	2,671 34	1,582 50	1,582 50	4,253 84	1,582 50	29,285 65	
7	3,312 53	10,442 03	7,129 50	2,936 90	7,521 00	10,467 90	2,210 58	7,963 50	7,963 50	10,174 08	7,963 50	58,784 89	
8	5,984 77	14,382 77	8,398 00	4,947 02	8,200 50	13,147 52	5,097 61	8,333 50	8,333 50	13,431 11	8,333 50	81,511 71	
9	884 00	5,797 50	4,913 50	1,294 12	5,265 00	6,559 12	1,582 88	5,091 00	5,091 00	6,673 88	5,091 00	35,137 00	
10	54 00	239 50	185 50	96 00	297 50	293 50	218 00	242 00	242 00	460 00	242 00	1,834 00	
11	17,315 34	20,262 34	2,947 00	16,755 64	3,122 00	19,877 64	16,154 33	3,751 50	3,751 50	19,905 83	3,751 50	120,637 08	
12	154 00	286 00	132 00	156 00	94 50	260 50	.....	130 00	130 00	130 00	130 00	1,570 76	
13	1,854 00	3,044 50	1,190 50	1,814 00	967 00	2,781 00	1,650 00	1,212 50	1,212 50	2,862 50	1,212 50	18,123 50	
14	3,164 49	10,210 49	7,046 00	2,650 09	6,941 00	9,591 00	2,752 86	7,704 00	7,704 00	10,466 86	7,704 00	59,494 88	
15	9,198 00	12,399 50	3,201 50	7,880 67	3,072 00	10,952 67	6,678 62	3,687 00	3,687 00	10,365 62	3,687 00	68,124 06	
16	166 00	4,653 00	4,487 00	222 20	4,569 60	4,821 70	88 00	4,600 50	4,600 50	4,688 50	4,600 50	26,736 20	
17	9,415 50	10,384 00	368 50	8,513 60	829 00	9,342 60	8,539 40	1,230 50	1,230 50	9,769 90	1,230 50	59,847 09	
18	55,252 73	104,019 73	48,767 00	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00	51,215 00	99,622 03	51,215 00	602,896 61	
19	2,508 25	6,445 25	3,937 00	2,579 67	4,246 00	6,825 67	3,292 65	4,681 50	4,681 50	7,974 15	4,681 50	40,063 07	
20	452 00	6,328 00	5,876 00	516 00	6,462 00	6,978 00	618 75	7,136 00	7,136 00	7,754 75	7,136 00	36,218 25	
21	184 00	1,493 50	1,309 50	206 00	1,473 50	1,679 50	370 00	1,728 50	1,728 50	2,098 50	1,728 50	9,478 50	
22	180 00	260 50	80 50	592 00	59 50	672 50	445 00	229 00	229 00	674 00	229 00	1,906 50	
23	.....	.....	.....	28 00	7 00	35 00	.....	.....	.....	.....	.....	115 00	
24	302 00	1,269 50	367 50	1,054 40	424 00	1,478 40	786 25	291 00	291 00	1,077 25	291 00	8,084 85	
25	.....	111 50	111 50	.....	225 50	225 50	.....	121 00	121 00	121 00	121 00	624 50	
26	4,226 25	15,908 25	11,682 00	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00	14,187 00	19,699 65	14,187 00	96,470 67	

27	628 15	4,090 50	4,716 65	770 44	4,149 50	4,919 94	1,225 78	3,396 00	5,621 78	27,121 45
28	426 00	3,552 50	3,578 50	967 40	3,413 00	4,380 40	1,127 00	3,636 00	4,763 00	28,156 40
29	76 00	1,433 50	1,509 50	271 53	1,364 00	1,635 53	734 73	1,409 00	2,143 73	12,309 28
30	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51	67,587 13
31	.....	8,005 00	8,005 00	.....	9,294 00	9,294 00	.....	8,862 00	8,862 00	44,460 50
32	1,524 26	14,900 50	16,424 76	1,176 98	15,465 50	16,642 48	1,233 98	16,335 25	16,569 23	96,846 22
33	1,988 00	5,047 00	7,035 00	2,227 63	5,119 50	7,347 13	2,354 00	4,122 50	6,476 50	36,332 07
34	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 00
35	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73	177,653 79

## RECAPITULATION.

36	55,252 73	48,767 00	104,019 73	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00	99,622 03	602,896 61
37	4,226 25	11,682 00	15,908 25	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00	19,699 65	96,470 67
38	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51	67,587 13
39	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73	177,653 79
40	64,119 39	97,478 00	161,597 39	60,685 59	100,218 00	160,903 59	60,595 17	103,162 75	163,757 92	914,608 20

## APPENDIX No 2.

## NOVA SCOTIA.

ANNUAL REPORT ON THE FISHERIES OF NOVA SCOTIA FOR THE  
YEAR 1888, BY MR. W. H. ROGERS, INSPECTOR.

AMHERST, N.S., 31st December, 1888.

HON. CHARLES H. TUPPER,  
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to transmit herewith the returns showing the catch of fish in the various counties of Nova Scotia and Cape Breton, together with a general return of the whole province; also comparative tables showing the catch of fish in each county during the years 1887 and 1888, with statement giving value of vessels, boats and other materials employed in the fishing industry.

By these returns it will be seen that there has been an aggregate falling off in the total value during the past year of \$562,752.26 as compared with the previous year, the total value in 1887 having been \$8,379,782.68, and for 1888, \$7,817,030.42. The four counties of Cape Breton Island give a total value for the current year of \$1,481,988.08 against \$1,554,288.04 in 1887, a decrease of \$72,299.96, or less than five per cent.; and the fourteen counties comprising Nova Scotia proper gave a value in 1887 of \$6,825,494.64, and for the present year \$6,335,042.34, a decline of \$490,452.30, or over seven per cent. As will be seen by the table herewith showing the increase and decrease in the various items, the decline is pretty generally distributed over most of the principal items. This would seem to indicate that the shortage in the catch was not because of the scarcity of fish, but rather on account of unfavorable weather.

The County of Lunenburg continues to take the lead in the catch of fish, which may be accounted for by the enterprise of its merchants and fishermen, who have for some years been engaged extensively in the deep sea cod fisheries. Its steady increase from year to year in the value of the crop gathered proves pretty clearly that there is no lack in the supply of these fish in the sea.

## SALMON.

The catch of these fish in Nova Scotia and Cape Breton was about the same as last year, but the Labrador crop has fallen off some, the entire yield for the year being 1,167,800 lbs. showing a decline of 108,553 lbs. The summer was an unusually wet one. The streams were full all the season, and the fish found their way to the upper portions of the rivers, and hence the catch was not so large as it would have been, had the rivers been in their usual condition. However, it will have a good effect in future years, if low streams and hard frost do not kill the spawn, during the winter months. That such a thing should happen is not at all unlikely, and should it occur, all the artificial culture we are doing would not have much effect in keeping up the supply, nor offset such a wholesale destruction of spawn as would occur. Such natural causes as these have much to do with producing the large periodical fluctuations in the catch of these, as well as in most other branches of the fisheries.



To permanently improve and maintain a good supply of salmon and other anadromous fish, and to counteract the loss sustained by the drying up of many of the smaller streams, consequent upon cutting away the forests, as the country is advancing in agricultural development, there are two lines of action clear and plain, calling for departmental attention.

First.—To open every dam, and supply every natural fall obstructing the ascent of fish to the inland waters of Canada, with good and efficient fishways.

Second.—To increase the quantity of young fish by artificial culture, at least ten times its present production, which can be done without materially adding to the cost of present operations. With these improvements, all the salmon the people catch during open season, or up to the 15th August, will not check the increase, as the great body of spawning fish enter the rivers and ascend them after the fall rains swell the streams. They then have pure water and are seldom troubled by poachers. There are exceptions on a few streams where these fish do not enter the rivers or estuaries until the fall months; such streams are confined chiefly to those which empty into the Straits of Northumberland.

The Clyde River, which was opened on the fall of 1879, still continues to improve, in the face of much fishing, the present year's catch being 3,975 lbs. of salmon and 130 barrels of alewives, which at market prices, as taken out of the water, will pay the interest at 6 per cent. on \$25,000, and the cost of the fishway, producing these results, was less than \$200, clearly proving the importance of fishways. The same increase is taking place wherever good fishways have been put in the dams six to eight years ago.

#### MACKEREL

Have fallen off nearly one-half below the catch of 1887, the yield during the year aggregating but 47,806 barrels, against 93,426 barrels last year.

The following table gives the annual catch in this province for the years indicated, and although there has been a large falling off in the quantities gathered during the past two years, I do not think we have any reason to fear a permanent decline in the supply upon our coasts. Mackerel are controlled in their movements, by water temperature and by their search for food. They spawn wherever they may happen to be located, when ready to deposit their ova, which, just as is the case with spawn of almost all other edible sea fish, floats near the surface of the water while hatching; hence the untold myriads of birds upon the surface of the sea, as well as fish and sea animals, are continually feeding upon it, and also upon the young fish when hatched. Storms and gales of wind, besides, drive quantities of it upon the beaches and rocks where it of course perishes. In these natural ways, more fish life is annually destroyed, a thousand times over, than by human agency is possible.

Year.	Bbls.	Year.	Bbls.
1869.....	46,575	1879.....	101,559
1870.....	85,254	1880.....	126,432
1871.....	228,152	1881.....	63,373
1872.....	115,631	1882.....	75,702
1873.....	141,005	1883.....	88,608
1874.....	122,250	1884.....	129,680
1875.....	91,232	1885.....	85,313
1876.....	70,964	1886.....	102,626
1877.....	113,638	1887.....	93,426
1878.....	129,693	1888.....	47,806

By dividing the catch into two periods of ten years each, the yield has been per annum, for the former period, 114,439 barrels, and for the latter 91,242 barrels, a decline of 23,197 barrels per annum; but by leaving out the catch of 1871 from the former period which was an unusual large one, and the catch of 1888 from the latter period which was a very small one, we find that the average catch for the former



nine years was 101,805 barrels, and for the latter 96,067 barrels, a difference of but 5,738 barrels per annum. The average catch of mackerel in all Canada, during the nineteen years from 1869 to 1887, was 146,271 barrels per annum, and for the ten years from 1869 to 1878, the annual catch was 139,340 barrels, while for the nine years from 1879 to 1887, the catch was 153,202 barrels, or an increase of 13,862 barrels per annum over the former period, and an increase of 6,931 barrels over the general average for the whole period, which certainly gives no evidence that mackerel are becoming scarce on our coasts. I think it quite probable that we shall have a large yield from this branch of the fisheries in the immediate future. It is quite common for this, as well as other branches of the fisheries to fail for several years in succession, and then return again more abundant than ever. The Manhaden fishery along the American coasts, fell off almost to nothing nine years ago, and continued in that state, until the present year, when they returned more plentiful than for thirty years past. During their absence, all kinds of theories were advanced by fishermen and others, but in particular, the modes of fishing were thought to be, as usual, the cause of the destruction, while really there was no destruction, but the fish were controlled in their movements by natural causes. For fifty years previous to 1864, the complaint was periodically raised and pressed upon the law makers of Great Britain, that beam trawling and other modes of fishing were ruining the coast and deep sea fisheries, and demands were made for prohibitory laws. The Government, however, appointed and sent out a Royal Commission to enquire into the whole question of the effect of the modes of fishing upon the fish supply, and after a thorough enquiry all around the coasts, the commission had no hesitation in reporting that so far from there being any decrease in the natural supply, there was an increase, and recommended that all laws restricting the catch of coast and deep sea fish be repealed. Accordingly such laws were removed from the Statute-book, except such as were needed to keep peace among the fishermen, by protecting individual rights. So that if in the Old World after many centuries of fishing big countries containing many millions of population, the supply of fish was not wanting, I do not think we need trouble ourselves on this point, as a new country, with our fishery resources scarcely yet developed.

The late Professor Baird, and Professor J. Browne Goode of the United States, after much investigation, fully agree with Professors Sarrs of Sweden, Alman of Norway, and Huxley of Great Britain, that the few fish taken for human food, contributes almost nothing to the decline of sea or coast fish. On this subject Professor Goode's views will be found in the Encyclopedia Britannica, Article Pisciculture.

#### HERRING.

Were quite plenty on most of the coast, and a fair average crop has been gathered, while the prices obtained have been fair. The total catch was 175,285 barrels, as against 181,146 barrels last year, a decrease of but 5,861 barrels. There are many influences both natural and commercial, as well as the scarcity or abundance of fish on the coast, which affect the quantity caught from year to year, consequently the average result of a group of years is the best criterion from which to judge of a permanent decrease or otherwise, in any branch of the fisheries.

There was a short catch of Digby herring this year, the total quantity being 33,000 boxes as compared with 85, 10 boxes last year. The cause for the decline is difficult to determine, but we may be sure the cause is not local, the same thing having repeatedly occurred before.

#### ALEWIVES.

There was a shortage in the catch of alewives during the past year, of 1,500 barrels, caused mainly by the high water and the state of the streams throughout the fishing season. The supply of these fish is steadily increasing, as the result of better protection and improved fishways.

## SHAD.

Native shad still continue to increase on the St. John River, as will be seen by the following table compiled from the annual returns. As stated on former occasions, these fish are taken in May on their way up the river to spawn, while the Bay fishery does not begin usually until the 20th June, at which time our native shad are in the fresh water spawning, and do not descend till early in July, when they are a poor useless fish until some weeks later, hence the Bay fishery belongs to rivers further south where they spawn in March and April, and after descending to salt water come north to feed, as the temperature of the water suits them.

Year.	Bbls.	Year.	Bbls.
1878.....	429	1883.....	1,728
1879.....	521	1884.....	2,420
1880.....	613	1885.....	2,189
1881.....	1,885	1886.....	2,716
1882.....	1,882	1887.....	3,950

The following table gives the catch on the Shubenacadie River, the only one producing any shad in Nova Scotia on the Bay of Fundy coast.

Year.	Bbls.	Year.	Bbls.
1880.....	17	1885.....	13
1881.....	30	1886.....	15
1882.....	31	1887.....	18
1883.....	24	1888.....	110
1884.....	12		

The decline of shad along the American coast may be judged of by the following figures, giving the catch during the years indicated.

The catch in the State of Massachusetts was in the year,

1882.....	44,736 fish.
1883.....	15,160 do
1884.....	17,699 do
1885.....	25,347 do
1886.....	19,446 do

The catch on the Connecticut River, was in

Year.	Fish.	Year.	Fish.
1879.....	436,981	1883.....	177,308
1880.....	269,981	1884.....	150,045
1881.....	351,678	1885.....	190,300
1882.....	272,903	1886.....	117,950

These fish are caught as on the St. John and Shubenacadie, during the spawning season, and the spawn taken from them is sold in the Boston and New York fish markets in immense quantities each year for food, and is enjoyed as a luxury. This state of things, over which we have no control, is, in my opinion, what is largely affecting our Bay fishery, and until our neighbors improve their fishery by artificial culture, better protection and improved fishways, I do not expect to see much improvement in the Bay.

## COD.

The aggregate yield of this item, covering what is known as the whole cod family, *i.e.*, cod, haddock, hake, pollock, &c., amounted to 1,133,152 qtls., an increase over the previous year of 44,568 qtls.; though the item of cod itself fell off this year 40,850 qtls. below that of 1887, which may be accounted for by the short catch in the shore fisheries, chiefly caused by stormy and unfavorable weather for boat fishing.

## HALIBUT.

There is a decline in this item as compared with last year of 192,598 lbs., the result of bad weather for boat fishing along the coast.



#### TROUT.

There is an increase in this item of 6,053 lbs., showing that this branch of the river fisheries is increasing.

#### SMEELTS.

There were 491,138 lbs. of these fish taken, as against 463,672 lbs. last year, or an increase of 27,466 lbs.

#### LOBSTERS.

There is a small increase in the yield of this important item, caused by limited time given by the law in which to take them. They were very plentiful on most of the coasts and of a good size.

#### FISHWAYS.

There were but three fishways constructed last year, as follows:—

One on the late Samuel Killam's dam at Milton, Yarmouth County. One each on Bourque's and Porter's dams on Herring Brook, near Eel Brook, Yarmouth County. Thirty new ones at least should be built the coming summer, a list of which will be forwarded to the Department. There are probably one hundred more needed in the Province.

#### GENERAL REMARKS.

The fishery officers have, as far as I can judge without having visited their respective districts for several years, attended to their duties fairly well. I would recommend the employment of special guardians, where and when wanted, instead of permanent wardens, who are usually for various reasons, almost useless. Two or four men on a river during spawning season, charged with the duty of keeping off poachers, we find do much better in protecting the fisheries, especially when under the lead of some of our most energetic overseers.

I have the honor to be, Sir,

Your obedient servant,

W. H. ROGERS,

*Inspector of Fisheries.*

### SYNOPSIS OF OVERSEERS' REPORTS.

#### ANNAPOLIS COUNTY.

*Overseer W. T. Carty*, of Round Hill, reports but little difference in the catch of the various kinds of fish in his district from last year. The same trouble exists between the lobster and herring fishermen, the latter claiming that the lobster traps are destructive to the herring fishery. He says the notices in reference to sawdust, which were served on mill owners, have had a good effect, and if vigorously carried out will prove a great benefit, both to fishermen and farmers who own intervale and salt marshes on the river. The fishways, he reports in fair condition, except the one at Nictaux where some blasting of rock is necessary.

*Overseer W. M. Bailey*, of Round Hill, is happy to report that the fisheries as a whole, in the western part of his county, have been fairly successful, and that the total catch surpasses that of last year.

There was a falling off in salmon from 4,500 lbs. in 1887 to 770 lbs. in 1888. This decrease has all taken place in the Round Hill River.

Alewives were very plenty, but not much sought after. Trout were taken in large quantities in the inland waters and lakes by sportsmen, the number of whom

is yearly increasing. Mr. Bailey strongly advocates a hatchery for the western part of the province, and urges that the inland waters of his district be stocked with salmon, trout and whitefish. The spring cod fishing was very good, especially at and near the Gut. Herrings on the Bay shore were a fine catch, but in the Annapolis Basin nearly a total failure; but he fails to account for it. The basin was full of small fish all summer fit for sardines, none of which were large enough for smoking purposes. There was a falling off in the lobster catch, due to the fact that the business is carried on by but few, it being too expensive for most of the fishermen, who in consequence have followed their legitimate business of line fishing. No complaints were made with by line or net fishermen, after the lobster men were made to bring their old bait ashore. Mr. Bailey says, he has practically broken up Sunday net fishing, and after it was known that the law was to be enforced there was universal compliance. He has given constant attention to the duties of his office and believes his district much improved thereby. He also urges upon the Department the necessity of putting two of Rogers' fishways at Bear River, as salmon have again returned to that stream, and without fishways they are unable to get to any spawning grounds.

#### ANTIGONISH COUNTY.

*Overseer John McDonald*, of Doctor's Brook, regrets to report a considerable falling off in the total amount of fish caught during the season just closed, not that fish were any scarcer than for many years past, but owing altogether to the exceedingly boisterous weather. Many of the fishermen who had made great preparations for a good summer's fishing, have declared that in their fishing experience they have not met with such a stormy summer. Generally speaking they were able to set their nets and trawls but two nights in the week, and even then with much risk to themselves and their gear. The largest decrease in his district was in salmon, on account of many of the nets having been driven ashore immediately after having been set.

The few fleets that held on fished well, which proves salmon to be as plentiful on the coast as ever. Hake and cod were very plentiful, but kept far off owing to the weather. Mackerel were remarkably scarce on the coast of his district, and on account of a high price and the great demand for them, many fishermen and even farmers spent much valuable time seeking them, consequently the amount caught is considered large. In his opinion these fish were as plentiful on the coast as in former years, but the storms broke up the schools as they do in fine weather. Large hauls of spring herring were taken at Harbor Bouché, where many bankers were supplied with bait. Summer herring, on the other hand, were very scarce, and but few barrels were taken. Lobster fishermen and canneries did very well. It has always been his opinion that the lobster fishery is good in boisterous weather, because the water becomes dark and muddy, and they creep to shallow water much further than in fine weather. It was a matter of surprise to the fishermen and inhabitants that there has been a fine run of cod striking in, in November, during the past few years.

In the interests of the Department, Mr. McDonald has closely watched the lobster fishermen and the factories in every section of the county, and only on one occasion did he discover a violation of regulations, whereupon the party was convicted on view.

#### COLCHESTER COUNTY.

*Overseer H. Gass*, of Tatamagouche, cannot say whether salmon are increasing or not, as there are none caught in his district. Mackerel were very scarce. Herring were exceedingly plentiful in the bay, especially in the spring, when more were taken than for a long time previous. Alewives readily ascend the rivers, but not until the close season begins. The mill owners in this section have all done their best to keep the rivers free from sawdust, still some goes in. He says strict com-



pliance with the regulation is going to be very hard on them, and that some say they will have to give up the business entirely if the law is enforced.

*Overseer R. J. Pollock*, of Lower Stewiacke, reports abundance of smelts. The season was more favorable for shad fishing than last, and more were caught. The continual fall of rain kept the water too high for salmon fishing, and consequently less time was necessary for looking after the river. The fall salmon were quite plenty. Two poachers were caught and fined. He says the mill men are making preparations to dispose of their sawdust otherwise than by putting it into the streams.

*Overseer J. W. Davison*, of Little Bass River, reports that for the past several years he has been obliged to report a decline in the shad fishing, and he is sorry to be obliged to report a still further falling off for the past year, but the fishermen being discouraged by former years' results, did not make extensive preparations. In proportion to the apparatus used, the falling off is not so great as would seem. Salmon, cod and herring were about as plentiful in the bay as in the previous year, but the same effort was not made to take them. Salmon were as plentiful in the rivers as for some years past, with abundance of water for them to ascend the rivers. He is not aware of any attempts at poaching. As to the falling off in the shad fishery from year to year, Mr. Davison says it is difficult to account for. He has heard many reasons and theories given, but to his mind very few of them seem reasonable. So far back as his memory goes there has been a continual fluctuation. Sometimes for a few years good catches will be made, then perhaps for one or two years they will fall to something very small, and so on. The catch for this year was the smallest for forty years. He has been informed by some of the oldest inhabitants that in the years 1845-46, when but small preparations were made for fishing, and at a time when the decline could not be chargeable to over-fishing, some weirs only took about one barrel of shad, and people concluded the fish were leaving the bay and consequently on the following year (1847) did not set their weirs. However, in a few years they returned as before. Mr. Davison recommends a close season from the 1st January to 10th June.

#### CUMBERLAND COUNTY.

*Overseer Wm. Murphy*, of Wallace, reports that salmon did not appear in the Wallace River till about the 5th October, and owing to the continuation of rainy weather they did not ascend the river till early in November, but were seen in large schools near the head of the tide. Men who were scowing stone informed him if they had possessed nets and they were allowed to fish, very large quantities could have been taken. Early in November large numbers went up the river and could be seen by dozens, both above and below Rhindrer's dam. Mr. Murphy feels confident there was an increase of 50 per cent. over last year, and all sceptics now admit that salmon have returned to Wallace River, and that fishways afford every requirement for their ascent up the river.

Herring again returned in great quantities, both at Malagash, and Oak Island. An increase of two hundred barrels were taken, and thousands might have been, had people been so disposed.

Alewives were more numerous than for twenty years. The catch was double of last year. Smelts were very scarce, but brought a high price. Shad appear to be improving, but there is only effort on the part of one man to catch them. Eels are abundant, but not fished for. The same thing may be said of bass. Lobsters were plenty and of fair size. Some of the largest catch ever made in his district were those of the past season.

On account of their passage through the fishways trout are becoming more plentiful in the head of the river. Oysters are almost becoming a thing of the past, and will become wholly so unless fishing is wholly prohibited for a number of years.

#### DIGBY.

*Overseer William Hanley*, of Digby, reports the mackerel, shad and herring fisheries at the head of St. Mary's Bay as failures. The six trap nets set in this

bay did nothing. He is glad, however, to report that the deep sea fishery upon the whole has been good, although the very rainy weather seriously interfered with curing them. The lobster firms had a profitable season's work, and prices of all kinds of fish were good. The fishermen of his district have happily been free from disaster of any kind, and they are likely to subsist very well through the coming winter on their summer's earnings. The fishery laws, with but very few exceptions, were well observed.

*Overseer James A. Collins*, of Westport, reports a prosperous season for the fishermen of his district, the catch of live fish having exceeded that of 1887, while prices were much higher. The catch of lobsters was about equal to that of last year. There was a remarkable increase in the export of fresh haddock. This branch of the fisheries is becoming more important each year, and is now being carried on a good part of the winter when weather permits. The laws and regulations were well observed in Mr. Collins' district. It appears to him that power should be given to the overseers to regulate the setting of lobster traps and herring nets, as constant disputes arise on account of overcrowding among the fishermen; and the evil seems to be growing worse with each succeeding year. The supply of bait is likely to be a very serious matter in the near future. He thinks the scarcity of herrings is partly caused by the destruction of vast quantities of small ones by the weirs of Grand Manan and Annapolis Basin. He also calls attention to the large quantities of various kinds of small fish destroyed each year by the various traps along the adjacent shores of Yarmouth. Immense quantities of these fish are hauled away by farmers in the vicinity and used for manure. Squid are much used for bait, but the supply is precious and uncertain. Mr. Collins again urges the importance of protecting the upper part of St. Mary's Bay as a spawning ground. Trawling should be prohibited there during a portion of the year. No mackerel were taken and they appear to have wholly deserted that part of the coast for a time. Having had a good catch of fish, and having realized good prices for the same, the fishermen appear to be well satisfied with the present conditions of things, and do not regret the rejection of the treaty, which they consider would have been of little or no benefit to them.

#### GUYSBORO' COUNTY.

*Overseer James A. Tory*, of Guysboro', reports the fisheries of his district for the past season to have been a fearful failure, and in some respects and in some localities nearly a total one, which leaves many persons unprovided for the winter. The lobster fishery proved the best, and had it not been for the shortening of the fishing season the overseer has no doubt, it would have exceeded former years. The packers reported that the quantity at the close of that season was quite equal to former seasons of the same date, but a downward tendency in size. The employment of inspectors did good service in the protection of the small and female fish from destruction, and it is hoped the Department will continue such service. Mr. Tory suggests a plan or scheme that would be less expensive, viz.: "There are now too many canneries in operation, and the opposition to each other is so great that strong inducements are held out to the fishermen to violate the regulations, besides most of them are owned by foreigners, and they should be compelled to contribute towards the protection of a fishery from which they derive such a source of income. No cannery should be allowed to traffic in lobsters without first obtaining a license for that purpose, and the amount should not be less than \$50 each. This should go to form a fund to pay the inspectors, which would make it almost a self-sustaining arrangement." Live fish, especially cod, were a fair catch, but not equal to last year. The shortage was principally owing to the Grand Bank vessels having been sold or transferred to other ports. Herring was only about a half catch as compared with last year. Mackerel, on their first appearance in the spring, bid fair for a good season's catch, but all were doomed to disappointment, for no sooner did they appear than they were attacked by the American fleet of purse seiners which caused them to leave the coast, and the result was none entered the bays or harbors, and virtually a total failure to the fishermen was the result, excepting a night or two along the



shore. In connection with the mackerel and herring fishery. Mr. Tory is strongly of opinion the great bulk of those fish are being greatly reduced, and that unless some regulations are made to protect them the day is not far distant when there will be none. Catching of fish in their spawning season and the purse seine are the great destructive elements of those fish. The other kinds of fish apparently have been as plentiful as formerly, although in several instances not so many taken. He has no complaints to report. The usual quantities of fish ascended the rivers.

The sawdust order gave the mill owners a scare, and the most of them went to work putting their mills in order, to prevent the rubbish, &c, from escaping into the streams.

*Overseer Allan McQuarrie*, of Sherbrooke, reports the value of the fisheries of his district as showing a slight increase over last year, owing to importations by traders taken from Labrador. Salmon were not up to the average of former years. Fat summer herring did not visit his district in numbers worth mentioning, but fall herring were more plentiful, though they were continually on the move, so that the fishermen, in the face of diligent and faithful efforts, did not strike the fish, and, consequently, are ill prepared to meet the hardships of a cold winter. It is very probable the Government may be called upon to help tide some over the winter months. Alewives were scarce and very few were taken. Cod were also less plentiful than usual, and of smaller size, but yielding a large percentage of oil, in some cases a gallon to the cwt. All the old lobster factories and two new ones, making seven in all, were in operation. These fish were plenty and of good size, but rough weather made a short season, still shorter, and it is a surprise that so many were taken. The weather averaged extremely stormy and boisterous all the fall, and fish kept off shore, so that small boats have comparatively nothing laid by for the winter.

The law was fairly well observed, but Mr. McQuarrie insists on having a warden appointed in the Sherbrooke district, as the head of the tide requires more watchfulness than other localities. The inspection of the lobster factories was carefully kept up during the season, and the result was quite satisfactory. He imposed some small fines for taking of small lobsters, but on the whole the laws were well observed in his district. This officer is satisfied that three or four months of close season, together with our long winters, would be sufficient protection for lobsters from Cape Canso to Cape Sable. The obstructions of Indian Harbor beach were attended to by the Department, and a man is employed to keep a passage open for fish. The sawdust law has been enforced and there has been a general, though not reluctant, acquiescence. The upper portion of Country Harbor River is in a very bad state with several jams of rubbish, so that at low water fish have no passage. Two hundred dollars is recommended to be expended to remove these obstructions which are very injurious to the fish of the river. The fishways are all right and working well—more of them are wanted, as the new patent is so universally approved of. About ten miles of the west River St. Mary's is without a warden. This portion is thickly settled and exposed, not only to the local poachers, but also to those of Pictou County, who make nightly raids on salmon in the fall, when they go up to spawn. This evil should be wiped out, and a resident warden would be a wholesome check. From the want of this the inhabitants feel somewhat sore and claim they are entitled to the same protection as is given to other rivers. Wm. Findlay, of Caledonia, is recommended as the proper man for the place, he having been requested to name him by the citizens. Mr. McQuarrie thinks purse seining should be prohibited in preservation of valuable fish.

#### HALIFAX COUNTY.

*Overseer John Fitzgerald*, of Portuguese Cove, is sorry to report that the catch of all kinds of fish for the current year has been below the average. He fears considerable distress will be experienced among the fishermen during the coming winter. The failure of the mackerel and herring fisheries was a severe blow to those living on the shore between Ferguson's Cove and St. Margaret's Bay, those fisheries being their mainstay. The lobster law was fairly well carried out. The



factories purchase by the hundred and insist on getting large fish. All the fishways in his district, with one exception, are in good order. The dam at Snake Lake, Inghram River, is completely choked up so that no fish can pass it.

*Overseer George Rawling*, of Musquodoboit Harbor, cannot give as favorable a report on the fisheries this year as last. The shore fishermen did not do nearly so well, owing to the scarcity of fish and the blustering weather. The vessels, however, that fished about Magdalen Islands, all did very well. Considering the length of the season, lobster fishermen did a good business. The catch of herring and mackerel was very small on the shore of this district and they did not seem to touch there at all. Gaspereaux were unusually scarce, very few coming into their best resorts. Salmon were about as plentiful as last year. Mr. Wilmot took a large number at Musquodoboit River, for the Bedford establishment, and could have taken at least half as many more, but some person opened the passage and allowed them to go up the river. A great source of annoyance to Mr. Rawling is that during the months of October and November several of the fishermen pack lobsters in small lots, in out of the way places, on islands sometimes two or three miles from land, where in rough, foggy weather you cannot get to them, and in fine weather they can see one coming an hour ahead. The law during packing season was well kept. The packers did not want small lobsters, particularly those who bought by count. This officer believes it would be a great prevention to make it compulsory on the part of the proprietor to have the man who counts and weighs the lobsters, sworn to comply with the law.

#### HANTS COUNTY.

*Overseer J. B. Colter*, of Milford, reports a smaller catch of salmon this year than last. During the first two weeks in August the river was alive with small bass, but they were scarce at the time when they should be caught. Both alewives and river shad were more plentiful than for several years previous, and there was a good run of these fish into Grand Lake. Last winter was the first attempt at taking eels in the Shubenacadie, and the result was very satisfactory, some making as high as \$5.00 per day. The close season was well observed.

*Mr. J. M. O'Brien*, who reports in place of the late overseer T. B. O'Brien, deceased, says the catch of salmon and shad was about an average with last season. Fewer boats were engaged in the business and owing to the small catch last year, no new outfits were employed, which accounts for the nets being shorter. All the mill owners in this district were notified to take care of their sawdust, and he is pleased to say the law is being obeyed better than heretofore. He has not been made aware of any poaching in this district.

#### KINGS COUNTY.

*Overseer R. F. Read*, of Wolfville, is glad to state that the catch of alewives in the Gaspereau River was much larger than for several years previous. Salmon fell off quite materially, from some unknown cause. The fishways at Benjamin's Mills, are working satisfactorily, but there is great necessity for a ladder at Dolge's Mill. At Aylesford there was an increase in the catch of salmon, and much larger quantities were observed in the river the past autumn than usual.

*Overseer James S. Miller*, of Canning, reports a large increase in the catch of salmon as compared with last year. Herring on the bay shore were also a fine catch. The shad fishing still continues very poor both in Scott's Bay and the Basin of Minas. The Medford and Pereaux herring fishery also shows an improvement. The increase in value of about \$9,000 is mainly due to the splendid catch of salmon on the bay shore.

#### LUNENBURG COUNTY.

*Overseer David Evans*, of Chester, reports the catch of salmon as far below that of last year. The ice remained in the bays and rivers much later than usual and may have protected the fish from the fishermen. He again urges the necessity of

fishways on the upper dams of the Mushamush River, and the dams on Gold River at New Ross referred to in his last report. The catch of sea fish was far below the average, the mackerel fishing being almost a total failure in some parts of the district. Four traps were licensed. Ten fines were imposed, amounting to \$45, a detailed statement of which has been forwarded to the Department.

*Overseer C. E. Godard*, of Bridgewater, reports the catch of salmon for the current year as about equal to that of last year; but that a large number escaped up the river, as the constant watch at the fish passes prevented poaching from going on, while the fish had a free passage through the dams. The same may be said of shad and alewives, the former having increased in numbers and were seen as far up as Cook's Falls. The west branch has been so many years entirely closed to the passage of fish, that it will, in Mr. Godard's opinion, require to be restocked from the hatcheries. During the month of November most unusual quantities of herring, squid and other fish appeared in the Lahave River, and very large numbers were taken. The past season was one of continuous rains, so that the river during the last three months had the appearance of a continual freshet. This had the good effect of clearing out the river, which has become to a great extent freed from debris and sawdust.

#### PICTOU COUNTY.

*Overseer D. G. McDonald*, of Lismore, reports quite a falling off in the several branches of the fisheries of his district as compared with last year; lobsters alone exceeded the previous year's catch by some 11,700 cans. The shortage in salmon, herring, cod &c., was principally, if not entirely due to the stormy and changeable weather. The lobsters of the current season were of a larger size. Salmon catchers on the Big Island section complain of interference by the lobster trappers, contending that the oily matter escaping from the bait frightens or is disagreeable to the salmon and consequently keeps them off their natural course. The lobster men on the other hand claim an equal right to the waters. The officer recommends some regulation should be made to meet the case. The rivers and streams of his district have been kept clear of sawdust and other mill rubbish. Large quantities of salmon are reported as having ascended to their spawning grounds. The close season was well observed and no poaching has been practised in this district to Mr. McDonald's knowledge.

#### QUEEN'S COUNTY.

*Overseer S. T. N. Sellon*, of Liverpool, reports that the fisheries of his district were not so large as he could have wished. Herrings were late in coming into the harbors and bays, and the want of them for bait, line fish such as cod, hake and haddock did not frequent inshore grounds as usual, and as a result small boat fishing was almost a complete failure. Mackerel were few, very few were taken by nets and more by hook and line. Cod were supposed to be plenty. There was no trouble in getting plenty so long as the bait lasted, but for want of it, a large part of the season was lost, and many men did not get fish enough to entitle them to bounty. Lobsters were in good supply and of good quality, and fishermen generally were satisfied. Many live lobsters were shipped from his district. Mr. Sellon is quite satisfied that salmon are coming back to the rivers. These fish formerly were turned from the rivers by impassable dams, or having been impeded by those obstructions were killed below the dams. This state of things lasted a long time and applied to alewives as well as salmon. If then these fish, during so many years have been destroyed, it is only fair to ask reasonable time to get them back under good protection and efficient fishways, and a good beginning has been made in this direction. Many fish were taken at Milton. One morning fifty grilse were dipped at the lower dam and some at the upper one. On the following day very many were seen going through the ladders. The catch of salmon on the sea shore was not so good as usual, they appeared to keep outside of the hundreds of lobster traps with their moorings and foul bait. The fishing was good at Milton and they went up as far as Indian Garden and Lakes. Mr. Sellon looks for a large increase in these fish next year.



*Overseer John Fitzgerald*, of Mill Village, is pleased to report a smaller number of violations of the Fishery Act than in most former years, and also that the mill-owners are exemplary in taking care of their rubbish. The wet season was extremely favorable to the ascent of fish up the rivers, so that the first run was over before many could be caught. There was an increase in the catch of herring and an average catch of lobsters, but the mackerel fishing fell far short, owing mostly to stormy weather. This officer again urges the importance of appointing an extra warden. The spawning places offer extra inducements for poaching as the fish are less lively when there, and owing to the shallow water fall an easy prey to poachers. Mr. Fitzgerald gives his opinion that sawdust is not injurious to fish.

#### SHELBURNE COUNTY.

*Overseer W. J. McGill*, of Shelburne, reports cod as less plentiful, and consequently his returns show quite a falling off. The bank fishermen were longer than usual on their trips, but prices ruling high, the business proved more profitable than the previous year. Cod were unusually scarce inshore, and had it not been for haddock and herring, the inshore fishery would have proved a failure. Mackerel were a total failure in his district, the 300 barrels having been taken by vessels. There was an increase in the herring fishing amounting to 2,113 barrels. These fish commanded a good price in the market leaving a handsome margin for the fishermen. Lobsters continue quite plentiful. The falling off is owing entirely to the close season being a month shorter, and the absence of the steamer which formerly carried live lobsters to Boston. The present regulation, says Mr. McGill, are just what are required for his district, and the law as a rule was complied with. Infringements were duly dealt with as the law directed. There was a falling off in salmon, Clyde River being the only section which did not show a decrease. The alewives fishing showed an improvement, and a larger percentage than usual reached their spawning grounds and everything was favorable for the descent of the young. The fishways are all in good condition and are being carefully looked after. Owing to good prices a large percentage of the fishermen did better than last year.

*Overseer E. S. Goudy*, of Barrington, reports an increase in the number of vessels engaged in the fisheries by seven. Cod shows a falling off of 4,000 cwt. as compared with the previous year, due for the most part, from the fact that the bankers returned from their first trip with very small fares, and the boat fishermen, especially at Port la Tour, did but a very small business. Herring show an increase of 1,800 barrels. All the mackerel taken the past year were packed in ice and shipped to the United States, where they brought all the way from six to twenty-five cents each, except 441 barrels which were salted. A large business was also done in shipping live lobsters to foreign ports, amounting in value to over \$80,000, and large preparations are being made to increase this line of business next year. Canned lobsters show a decrease on account of the shorter season. Mr. Goudy says he visited the fishway at Clyde River, and found it giving good satisfaction, large numbers of alewives ascending it. Next year repairs will be necessary. Salmon on this river show an increase.

#### YARMOUTH COUNTY.

*Overseer Enos Gardner*, of Tusket, reports a decrease in the fisheries of his district, and attributes it to the stormy weather and scarcity of bait. Some of the vessels got full fares but many did not. Prices ruled high, on account of the constant rains it was found very difficult to cure the fish, so that altogether the business has not been very profitable this season. The mackerel fishery was a failure, the trap nets not taking enough to pay expenses. Net fishermen did not fare much better. The high prices obtained helped the matter some. The prices for live lobsters were good, and those engaged in this business did very well. The regulations were well observed. The factories did not put up so many as in the previous year, as they required to close up on the 1st July. The managers showed every disposition to observe the law, but are of opinion that if they were allowed two months fall fishing, commence-



ing some time in September, that it would not injure the fishery and would be very profitable to them. The river fishery of salmon and alewives was less than last year. Owing to the very high water, poachers had no chance to put in eel wiers, so that the young fish have met with no obstructions, and large quantities were seen coming down the streams. Mr. Wilmot supplied the temporary hatchery at Tuskett Falls with a large quantity of salmon ova, which was sufficiently hatched out by Warden Hatfield, and deposited in the rivers some time in June. A salmon hatchery established on the river would be a great benefit, as salmon are generally taken at that place very early, when a high price is obtained. The fishway at Kemptville Gang Mills was kept in good repair, and the fish are afforded a good passage. The one at Carleton requires improvement by carrying it a little further into the pond, and it is otherwise out of order, and will require fixing next year.

*Overseer. G. H. Robertson, of Yarmouth, says*—In submitting my report for this year I feel no apology is necessary in saying a few words about the sawdust question, especially writing from a county so largely covered by lakes and rivers as is the county of Yarmouth. Here we have miles of rivers, streams and lakes, and, perhaps, it is no exaggeration to say, acres of sawdust in them. Let scientists settle the question of the effect of sawdust on the health and happiness of the fish; the fact remains that rapid running streams, which actually carry some of the sawdust to the sea, are now shunned by gaspereaux and other fish: whether it is that the sawdust frightens them away from the mouths of such rivers, or that some instinct tells the fish that it is better for its health not to go among the sawdust, I cannot say. The young gaspereaux and herring, it must be remembered, are in turn the food for larger salt water fish, and just as the small fish keep off from our shores so will the shore deep sea fisheries decrease. This is the experience of people who have been fishing all their lives off our shores. But suppose that the actual sawdust in the water does no injury to the fish and that they rather like it. An important point in favor of a rigorous enforcement of the regulation against depositing sawdust in the rivers is that the small lakes and coves are being filled up with alarming rapidity. A very large percentage of the total quantity of sawdust never finds its way to the sea at all, but is caught in the eddies and still waters until becoming saturated with water it sinks and becomes part of the bottom. Thus in the still waters of some of our rivers in this county are veritable islands of sawdust and shingle shavings, making, at certain seasons of the year, navigation in boats and punts difficult. An illustration of this may be seen at Carleton Village, on one of the branches of the Tuskett River. The lake at this village is becoming filled up with water soaked sawdust. I feel it my duty to call attention to these facts, although my illustration is from a district not in my jurisdiction, because mill owners will frequently point to sawdust floating off rapidly on a river and ask with a great flourish of triumph, "How can that obstruct the rivers?" Mill owners in this county are probably no worse than elsewhere, but they do not wish to add to their expenses that of having to care for their sawdust and other mill refuse. Their interests are in making all the profit possible out of their mills, and if the interests of the fisherman thereby suffer it is immaterial to them. The feeling among the millowners in this county is that sawdust does no harm to the fisheries. The conviction of those interested in the fisheries is that if sawdust continues in the waters the question will be settled very soon, because there will be no fisheries. I must confess, so far as my observation goes, the latter opinion is no exaggeration of the facts so far as this county is concerned. Trap fishing this year has proved a failure; with the exception of a few none will pay expenses. I would suggest the advisability of fixing some season for trap fishing. On the shores of this county the practice is to set the traps shortly before the time for the first run of mackerel (about May 1st) in the spring, and take them up when the mackerel season on this shore is over, from July 15th to Aug. 1st. But the license permits a trap fisherman to leave his trap down all summer, for herring; if they do this, it will seriously interfere with the net fishermen at Sandford, who do their largest business in the fall after the traps are taken up.

On the whole, I am glad to report that lobster shippers and fishermen in my district show a desire to obey the law and the Department regulations. Lobster fishing has developed into a large business and is now one of the most important industries in this county. The quantity shipped from here to the United States this year, if the season had not been curtailed would far exceed the shipments of previous years. One shipper expressed a desire to take lobster in the open season, impound them and then ship them to the United States during our close season when they would command a high price. I refused permission to do this, and it is probable application may be made to the Department for permission to do this hereafter. I would say lobster shippers being only human, would, I fear, yield to the temptation to ship lobsters caught in close season, and the close season would soon cease to mean more than two empty words.

The catch of mackerel in the traps is gradually falling off year after year. The catch this year shows a large decrease, but of extra quality. They were sold in the United States markets at unusually high prices.

The catch of cod shows a decrease. The high prices have fairly compensated the fishermen for their season's work.

Halibut also shows a decrease. Cannot account for the cause.

Haddock and pollock show a large increase. Near Maitland and Beaver River there are quite a number of large lakes connected by small deep streams. I am of opinion that these lakes are well adapted for the culture of whitefish or bass, as the waters are clear, with sand and pebbly bottom, affording ample feeding grounds. I would respectfully urge that these lakes be stocked with the above-named fish.

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# CAPE BRETON.

## REPORT OF MR. A. C. BERTRAM, FISHERY OFFICER, ON THE FISHERIES OF CAPE BRETON.

NORTH SYDNEY, CAPE BRETON, 31st December, 1888.

Hon. CHARLES H. TUPPER,  
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to submit the following report, for the calendar year ending with this date, of the fisheries of the sea coast and inland waters of the four counties—Cape Breton, Inverness, Victoria and Richmond—this being the fifth annual report for the Island of Cape Breton, since its establishment as a separate fishery district.

The following are the aggregate values of the fishery products of this island for each year since that period :—

Year.	Product value.
1884.....	\$1,421,787
1885.....	1,501,498
1886.....	1,561,655
1887.....	1,554,288
1888.....	1,481,988

It is a matter for regret that the aggregate value of the fisheries of the island shows this year a decrease compared with each of the two previous years; one county alone, out of four, giving an increase over the values for 1887. This is shown by the following abstract, by counties :—

County.	Product.		Increase.	Decrease.
	1888.	1887.		
Cape Breton .....	\$271,539	\$280,238	.....	\$ 8,699
Inverness.....	342,695	485,938	.....	143,243
Victoria .....	223,653	239,842	.....	16,189
Richmond .....	644,101	548,270	\$95,831	.....
			\$95,831	\$168,131
Total values for Cape Breton Island.....	\$1,481,988	\$1,554,288	.....	\$72,300

The above shows for 1888, compared with 1887, a total decrease in the fishery production of Cape Breton Island, equal to \$72,300. A glance over the first table shows that of 1888 to be the smallest value of product since 1884, and that it, the former, is \$27,819 less than the average of the four preceding years.



## CAUSES OF SHORTAGE.

These are various and differ with locality and also in the branches of fishery effected. Generalizing the causes productive of failure, they may be enumerated thus: Lingerings of the ice upon the shores to an advanced date of the fishing season; violent storms occurring in the season which cause destruction of fishing appliances and the retreat of fish to deep waters; absence of bait when fish are present on the coast; and destructive, improper methods of fishing. Of the latter two, the former is largely within human control, the last wholly so, and this will be specially referred to further on in this report.

## SALMON.

The prosecution of this branch of fishery is, for commercial purposes, confined mainly to some three or four points upon the island coast. Salmon, by netting, has not, on the whole, come up to a good average, and a less quantity than usual of that taken has been barrelled, but the export of it fresh and frozen has largely increased, chiefly to the United States. It is a hopeful feature for the future of this branch of industry that the parent fish which ascended the rivers for spawning were unprecedented in numbers for years past. This was especially noticeable in Maragaree River, Inverness County, where it is said that the number of salmon found on the 1st July, the height of the angling season, has not been equalled within the memory of any of the present residents of the valley, and anglers have had a correspondingly happy time of sport. The uniformity of size observable in the fish led to a belief that the fish which ascended the streams this year were the first fruits of the hatchery located at Sydney. Although this is probable, it is yet rather early in the experiment to pronounce upon it definitely; but unless some very unfavorable circumstances occur to militate against the running of the fish, next year's experience will settle the question beyond doubt. The popular acceptance of the signs of the last season are strengthened by the known fact that salmon will during its life choose the same stream for breeding year after year, and that the choice is made invariably of the stream of its birth.

## TROUT.

The streams were well supplied from tidal waters with this valuable fish, and as in habits and instincts it is closely allied with the salmon, there is no doubt but that the improved guardianship extended to the trout in late years is already beginning to tell favorably.

## ALEWIVES.

These, also, show an increase, as compared with last year. They are the first to ascend the streams from tidal waters, after the breaking up of the ice, and consequently, although comparatively not of very great value as salted fish in the market, are of important value as an early fish for domestic consumption.

## HERRING.

This has proved the staple branch of the Cape Breton fisheries for the year 1888. With two or three minor exceptions the herring fishery turned out remunerative to a degree that went far to compensate for the loss in other branches. Considering the value of herring as an article of profitable foreign commerce, and as a staple of food for home consumption, the wanton destruction of thousands of barrels of fish on the coasts of this island, annually thrown back dead into the sea, by mackerel seiners, is a most serious matter in the economy of one of the most valuable natural resources of this country. This point will be found more fully referred to in this report, under the heading of "Destructive Methods of Fishing."

It may be remarked that the "summer herring" taken on the coasts of this island is unequalled in size and excellence of quality by herring caught on any other coast in North America. This is a local peculiarity of this Island, but a never failing one, and this herring always commands *two* and *three* dollars more per barrel

than other herring in this country. It follows, that owing to its being set down at the average price, the true market value of the catch is not, by a considerable amount, represented in the tables hereto appended.

#### CANNED HERRING.

I referred to this in my report for 1887, as being then, for the first time, tried as an experiment, which if it proved acceptable in the market, would, in the near future, become an important industry in adding to the value of our Island fisheries. I am pleased to be able to report that the experiment proved a success and that the pioneers of the industry received a cordial reception for the product at remunerative prices. Encouraged by the successful issue of the last, they have this year, enlarged their canning business and regard it as being now established on a permanent basis.

#### CODFISH.

In spite of a very perceptible shortage in the aggregate value, next to herring this fish has been a leading staple of Cape Breton fisheries. The catch in some localities came to a full average, while in others it was almost a failure. Frequent storms and a prevalence of thick weather contributed to spoil the catch. In severe storms the fish retreats to the deep waters, which are less affected, and in some localities the cod paid but a brief visit owing to the absence of squid and small fish on which it preys, and this absence of bait fish, particularly squid, left the fishermen powerless to take advantage of the run of cod while it lasted.

This want of bait is a yearly recurring circumstance in some localities, and causes annual losses of fishery. It is to be regretted that our fishermen, as a rule, do not avail themselves of that invaluable adjunct to their business—an ice house—which, in this country, can be inexpensively constructed and easily filled at a season when they are otherwise idle. With a small, but well filled ice house, every fisherman could lay up bait which almost invariably appears during some point of the season, and always in advance of the larger fish. Every fisherman could thus provide against frequent losses resulting from want of bait. Some means that would be instrumental in directing their efforts to this end, would prove of incalculable value.

An important point in reference to the bait supply, to which I beg to invite your attention, is the duty heretofore levied on imported clams. Fishing vessels which go out to the near banks to fish, can obtain this imported bait, out of bond and duty free, whether the parties be aliens or residents, whilst boat fishermen who necessarily prosecute their calling in the bays and within short distances of headlands, have to pay a customs duty of \$2 per barrel. Boat fishermen regard this as discrimination against them. This is a point of interest to our resident shore fishermen, which it would be most desirable to rectify.

#### MACKEREL.

The season's catch may be expressed in one word—*failure*—and this correctly applies to the whole Island coast. Natural causes no doubt contributed somewhat to this unfortunate condition, but the overwhelming cause is found in the combined efforts of fishermen from the United States and Nova Scotia proper, towards the extinction of mackerel on the Cape Breton coast by purse seining. These fishermen no longer depend on hand line fishing, but rely upon the injurious method of purse seining, the former operating as closely as possible near the line of the three-mile limit, and the latter taking advantage of their privilege, operate inside wherever a school of mackerel which has escaped its countless enemies outside, may appear. Whenever a seine is thrown amongst a school of mackerel, the few that escape hasten to find security in deep waters on other shores. The school being once broken and scared, boat fishermen with their hand lines and straight nets have no further chance. So numerous have the United States vessels hovering upon the coast outside, become, and the Provincial vessels within the headlands, that the resident shore fishermen, depending on the common net and hand line, have but very



slight chance of procuring even a small remnant of the fish. This work of destruction now going on for years and annually increasing, appears to have about completed the inevitable consequence of a perfect decimation of the mackerel, so far as these shores are concerned. But if the entire disappearance of the mackerel will cause purse seining to cease, then the sooner the mackerel takes its final departure, the better for the residents who depend on the fishing for their subsistence, in view of the common destruction to which all the other fish tribes are subjected by purse seining. The restless pursuit of mackerel on the Cape Breton shore during the past season, has caused its flight to Newfoundland where they had not been seen for the past 60 years. American fishermen, last season, introduced the innovation of steam vessels in the mackerel fishery. This is a new element that will further accelerate the departure of the mackerel and other fish from the shoal waters of the coast.

#### LOBSTERS.

This fishery was not by any means remunerative. The ice remained somewhat late on the coast and fishing did not commence until the 1st of June, when it had not even then become general. Frequent storms prevented anything like a steady prosecution of the fishery. The most disastrous occurred early in July and destroyed a large amount of lobster fishing appliances. After this but very little was accomplished for the remainder of the season. Packers say that, owing to frequent storms, they had not, along the coast line from Cape North to St. Peters, more than twenty-five days out of the entire season to carry on their work. The fish were large and plentiful and there were no indications of an exhausted supply, either in quantity or quality. No soft shell fish were found up to the close on 28th July. Lobsters inhabiting the deep and cool waters outside the headlands are not subject to the annual changes of softening and shedding which affect those inhabiting the warm waters within the bays.

By a careful inspection of the canning factories and other safeguards pointed out in my report of 1887, lobster fishing on the coast of Cape Breton is likely to remain a permanent and unimpaired source of supply.

#### HALIBUT.

These fish cannot be said to have been plentiful, yet in several localities there was a visible improvement over that of late years, and fishermen believe in hopeful indications of their returning in greater numbers to the haunts where they were at one time found in abundance, but which they appeared to have almost entirely abandoned. They claim that lobster trapping seares away both mackerel and salmon and unfavorably affects the catch in each case.

#### THE MINOR FISHERIES.

The results in the lesser fisheries of shad, eels, smelts, &c., as well as in those of fish products, such as oil, &c., can be readily gleaned from the tables hereto appended.

#### DESTRUCTIVE METHODS OF FISHING AND WASTE OF FISH FOOD.

This is a subject which requires serious consideration and prompt action in the application of prohibitive measures, if our present coast fisheries are to be saved from extinction. The two principal agencies in this work of destruction and waste are:—

#### PURSE SEINING AND TRAWLING.

Against these two agencies of mischief our boat fishermen send up a united and universal protest. With fishermen of the United States and those of the Provinces, hand line fishing is now superseded by the use of seines and trawls. Both are destructive to fish, and the numbers now engaged in these methods of fishing are greatly in excess of all reasonable demands on the utmost possible fish-producing powers of this or any other coast of equal extent. Their practice close on the three-mile head-



land line, by the numerous United States vessels which swarm everywhere near the bays and headlands, to which they have added the appliance of steam propelling power, is of itself more than the productive powers of the coast can possibly sustain; but the evil is aggravated by the fact that our provincial fishermen, in vessels, are following out the same methods and, availing themselves of the greater privileges of subjects, come within the headlands and far up into the inland waters and throw seines and set trawls. This proves most disastrous to our boat fishermen, who depend on the product of these inland and close shore waters for occupation and means of living.

*Purse Seining* is liable to the following objections: 1. When a seine is thrown amongst a school of mackerel or other fish the school is broken up and scared, so that what escapes from outside the seine enclosure is scared and makes off to deep water for a refuge. This effectually destroys all chances of boat fishermen, who depend on hand lines and ordinary nets, for a share of the broken schools. 2. When, for instance, a seine is thrown for mackerel it encloses the fish of every kind within its great area, and the aggregate quantity of these varieties are frequently much greater than that of the fish sought to be entrapped, including the small valueless fish as well as the large. 3. When the seine is closed and the work of taking out commences, all kinds of fish, large and small, good and bad, which are not of the grade sought, are thrown dead into the sea, thus polluting the bottom to an extent which repels living fish from its proximity. By this method thousands of barrels of herring and hundreds of quintals of cod, including bait and other fish, are destroyed, and boat fishermen, who are depending on them for a supply, are deprived of all participation in the catch. 4. The large quantities thus destroyed in the seining process is far beyond the powers of nature to sustain by reproduction; consequently, the fishing grounds are being rapidly depleted of their tenants. In a word, perfect and irretrievable exhaustion is being completed. 5. The vast number of United States seining vessels hovering unceasingly on the lines of treaty limits, so near to the bay entrances and headlands, makes it almost a rare occurrence for a mackerel school of any considerable extent to reach inside the limits without being seined and scattered. 6. The freedom to provincial fishermen to throw seines and set fixed traps close on shore and within the bays, is even more disastrous than the combined seining practices of provincials and foreigners outside of the three-mile limit.

The destruction so well initiated by the United States fishermen, outside the limits, is perfected with the same appliances by provincial fishermen in vessels within the headland limits and bays, to the dismay of resident fishermen in boats.

*Trawl Fishing* near shore, and especially at the Island of Scattari, where it is extensively practised, and within the bays, is proving exceedingly destructive to the codfishery of the coast. Fish not retained by trawl lines are torn and wounded by the hooks, thus scaring the others and causing them to recede from the grounds into deep waters.

There are at the present time, about 7,430 boatmen employed in the shore fisheries of this Island, and this number represents a population of not less than 37,500 souls directly dependent on the fisheries for a living, and the number of families so depending is yearly increasing. This presents a serious economic question, viz.: What are these intelligent, industrious people to do, should the present quantity of fish production be seriously diminished? In such an alternative some would probably emigrate, whilst others without means to do so, would have to settle down to lives of poverty and hardship. The commerce and general industry of the country would suffer in such an eventuality.

As a general remedy against so undesirable a result, I would suggest the prohibition by Act of Parliament, of purse seines, trap nets, and trawls or set lines, anywhere inside of the three-mile limit, to foreigners.

I referred at some length to the subject of destructive appliances in fishing by which our fisheries are threatened with decimation, in former reports, and I therefore plead the vital importance of the subject as my apology for this repetition in reference to it.

#### NUISANCES.

The action of your Department towards enforcing the Act against the throwing of sawdust and mill rubbish in the streams, by which the waters are polluted so that fish abandon them, is universally commended except in the case of a few mill owners who imagine they should enjoy liberties not constant with the general public interest. That sawdust and other mill refuse causes fish to depart from streams affected by it, is an old time established fact, which requires some courage to gainsay. Supposing it did not render the waters repulsive to fish, yet it finds a resting place in the pools of the streams, which are the resting and hiding places of the fish; but when these pools are nearly filled with refuse, the fish are compelled to seek other and unencumbered streams.

#### OPEN SEA FISHING.

It is a matter for regret that capital in Cape Breton does not, to any appreciable extent, seek investment in the deep sea fisheries, by the construction of decked craft of a size adapted to the purpose. A numerous population is already dependent on the shore fisheries and from the absence of vessels adapted to prosecute the bank fisheries, large numbers of Cape Breton's active young men seek abroad that employment which lies at their doors, and thus give to foreigners the benefit of their skill and experience as well as the profits arising from their labor. These foreigners are careless of the lives of their employés, and every year adds new names to the death list of those of our brave young men who go down to watery graves in the Atlantic.

Any measure of encouragement, in addition to the present bounty allowance, that would tend to induce an investment of capital, in conjunction with the skill of our fishermen, with a view to enter more largely into the production of decked vessels for the deep sea fisheries, would confer an incalculable boon on the fishery interests of this island.

#### FISHERY PROTECTION.

The efficient protection given by the Government cruisers is of an incalculable benefit in promoting the interests and sustaining the rights of our shore fishermen, against the incursions of hordes of foreign vessels hovering on the coasts and is duly appreciated by resident fishermen. This protection and enforcement of treaty obligations is of special benefit to the Island of Cape Breton, perhaps more than to any other section of the provinces, from the fact that it excludes foreigners from the extensive and invaluable inland fisheries of the Great Bras d'Or Lakes and their numerous bays.

#### BOUNTY.

The bounty of fishermen as well as the placing of fishing supplies on the list of articles free of duty, are valuable concessions, and so prized by our hardy sons of the deep. The bounty continues to lend a strong impetus to their exertions as it is made a matter of honor not to fall below the requisite standard for securing the bounty. This honorable competition is particularly noticeable amongst younger men.

#### PROSPECTIVE OF THE FISHERIES.

With the combined protection afforded by the exclusion of foreigners from the bay fisheries and the addition of well observed close seasons, judiciously adapted to the local circumstances of the Island, and the suppression of seine, trap and trawl fishing within bays and close upon headlands, a bright future of prosperity is beyond doubt in store for the fisheries of this Island.

The Government railway in course of construction, by the intersection of the Island and tapping the Bras d'or waters at numerous points, adds immensely to the prospective value of the fisheries of these waters. This magnificent inland sea, with numerous and large bays, abounds in fish the year through, and especially is this



abundance greater during the winter season. These happy circumstances of nature, thrown open to easy railway communication, will open up an immense fish supply to every inland town from Montreal to the extreme west of Ontario. This supply cannot be surpassed for excellence and will furnish fresh fish to the west at cheaper rates than the people there have been accustomed to get it heretofore. These benefits will not extend only to Cape Breton fishermen, but will increase the traffic of railway and develop a greatly enlarged inter provincial trade.

Appended hereto will be found statistical tables showing in detail the various phases of the fishery production of Cape Breton Island.

I have the honor to be, Sir,

Your very obedient servant,

A. C. BERTRAM,

*Fishery Officer for Cape Breton.*

## SYNOPSIS OF FISHERY OVERSEERS' REPORTS.

### COUNTY OF CAPE BRETON.

*Overseer Francis Quinan*, of Sydney, reports that there is not much ground for congratulation over the season's fisheries in his district. The most noticeable decrease is in the catch of mackerel and salmon, and the fishermen who prosecuted those branches of the fisheries fared badly. The usual fall run of mackerel did not appear this year to any great extent, while the salmon fishery, although reported good in other districts of the Island, was very poor in his division. The herring fishery, however, was much better, particularly towards the close of the season, while the total catch of codfish exceeded that of last year. Towards the latter part of the season this fishery was good and made up for the light catch of the first part of the summer. Engaged in this branch of the fishery there are now a large number of fishermen from Newfoundland, who have settled at Lingan. They are an excellent class of settlers and understand their business. There is a slight increase in the catch of halibut as well as in that of alewives, which seem to be returning to their old haunts. Small fish of every kind were more plentiful than usual. A falling off in the lobster catch is reported as compared with last year, owing largely to unusually stormy weather during June and July, and to the destruction by fire of the Cow Bay factory, although this factory was rebuilt and operations commenced again, long before the season was over. After the lobster fishing season the factory at Cow Bay engaged in canning herring, which, if found to take in the market, will become an important industry on this Island. There are very few saw-mills in this district and none cause injury to the streams frequented by fish. These are situated on small streams running from lakes, the water being so low that they run only a few weeks in the year during high water. The fishery laws were well observed, and only a few violations came under this overseer's notice.

*Overseer Alexander McDonald*, of East Bay, reports a large falling off in the catch of codfish and mackerel, owing to the presence of drift ice, which remained on the coast to the end of May, thereby preventing fishermen from going to the fishing grounds. Another cause for the falling off is to be found in the unusually stormy weather and high winds during nearly the whole season, which caused codfish and mackerel to keep in deep waters, out of the reach of shore fishermen. A further drawback was found in the scarcity of bait. Mackerel appeared in the spring as usual, but their stay on the coast was brief, and the fall run was a disappointment to the fishermen, who had made extensive preparations in consequence of the advance in prices. Herring fishing was much better than last year, although these fish made a much shorter stay than usual. They were, however, plentiful, and of a superior



quality. Halibut was a complete failure, so far as this district is concerned, there being more barrels taken in former years than pounds in recent years. Mr. McDonald claims that trawl fishing is the cause of the scarcity of halibut. It is the opinion of fishermen in this district that the shore mackerel fishery will be ruined if purse seining is continued in Canadian waters. There is a noticeable decrease in the catch of salmon, which is not to be attributed to scarcity of fish frequenting the waters of this district, but to the fact that there were only a few fishermen engaged in this fishery. The number of salmon seen ascending the Mira River to the spawning grounds this fall was much greater than in previous years, and fishermen are of the opinion that these fish will yearly increase in number. The lobster fishery shows no sign of depletion. Although the season was a poor one for packers, it was not owing to any scarcity of this shell-fish, but to blustering and stormy weather, which prevented fishermen from visiting their traps, which in many cases were broken and strewn on the shores. Another drawback to this fishery was found in the presence of drift ice on the coast until the last of May, the packers being unable to commence operations before the first week in June. The severe gale which prevailed on the last of June caused packers in this district to lose nearly all their traps, and before they could get them repaired and replace them, the season was almost ended. One packer estimates his loss at \$3,400, and others met with similar misfortune. Some packers say that another summer gale would cause them to close their factories.

Alewives were more plentiful this year than in previous years, particularly in Mira River. Sea trout did not go up the rivers as numerously as in former years; cause unknown. Smelts were plentiful, but taken only for local use.

*Overseer James P. Burke*, of Main à Dieu, reports a falling off in the catch of codfish, a large decrease in the catch of mackerel, and an increase in the catch of herring. The decrease in the catch of codfish occurred principally in the districts of Mira Bay and Scattarie. The falling off in the catch of this fish, is attributed to the following causes: First--Capelin did not visit the shores this season, or indeed during the past four seasons, and fishermen attribute the scarcity of codfish to this cause. The absence of capelin caused bait to be scarce, particularly at Mira Bay and Main à Dieu. Squid, which is largely used in codfishing, was also scarce towards the close of the season, particularly at Scattarie. Another cause of failure in the codfishery was the unusually blustering weather which prevailed, making the season one of the most unfavorable known to the fishermen for years. The price of codfish, however, was good, and fishermen will not feel the failure of the fishery so severely. Last year there were 550 barrels of mackerel caught in his district, but this year only 316 barrels were taken, a decrease of 234 barrels which will be severely felt by fishermen, the more so as none of those fish were caught in the fall when prices were good; thereby entailing a loss of about \$1,000 compared with last season. There is a strong feeling amongst local fishermen against purse seining, and they attribute the yearly falling off in the mackerel fishery to this destructive mode of fishing, used not only by American fishermen but by Nova Scotians as well. Purse seines frighten and break up the schools, thus diverting the fish from the shore to outside waters. Cape Breton fishermen are in favor of legislation which will prohibit purse seining, and limit the fishing to hook and line as formerly. The herring fishery shows a slight improvement over last year. In Mira Bay there were 950 barrels taken against 750 last year. In Main à Dieu there were 1,000 barrels caught and 1,200 cases sealed in one-pound cans at the factory, against 1,125 last year. At Scattarie the catch of herring was about the same as last year. Halibut in this district also shows a slight increase over last year, being 22,350 lbs. against 22,078 lbs. in 1887. About 30 cases of halibut were packed at the lobster factory. There is a decrease in the catch of lobsters, owing to stormy weather which proved destructive to traps. At the Main à Dieu lobster factory in July and August over 1,200 cases of herring were packed. The canning of herring is comparatively a new industry in Cape Breton, and it is found that these canned goods take well in the markets abroad, realizing \$1.50 per dozen cans or \$6 per case. This business promises to become a profitable one. Trawl fishing is extensively carried on at the south side of Scattarie Island, and is considered by local fishermen to be injurious to the codfishery.

## COUNTY OF INVERNESS.

*Overseer D. J. McLean*, of Port Hood, reports an increase in the following branches of fishing, viz: Salmon, herring, hake, trout, lobsters and eels, and a falling off in mackerel, cod, haddock, squid and smelts. The high prices obtained by fishermen for the various kinds of fish, however, made up for the deficiency in the catch. The fishing season has therefore been as remunerative to fishermen as formerly. There is a material decrease in the catch of mackerel, and a slight falling off in cod, with a large increase in herring. Herring are generally classified as "spring," "summer" and "fall" herring. The catch of spring herring was exceedingly large, and almost altogether sold to vessels for bait. Some boats realized \$200 in a week, selling bait to Nova Scotia vessels. The increase in salmon shows the beneficial results of protection to the spawning grounds. The vigorous prosecution of the fisheries in several districts of this division is largely due to the impetus given to the industry by the Fishing Bounty. Nearly every fishermen strives to catch the necessary quantity of fish and serve the time required. There were five lobster canning establishments in operation during the season of 1888, an increase of two as compared with 1887; the additional one being located at Red Banks, Port Hood, and Coal Mines, Mabou, respectively.

The proprietors of all these factories complied with the law in closing on the date prescribed, and, although the fishing season was shorter there was an increase in the catch. It is true there were two additional canneries, but in the whole, the quality of the lobsters was much better than during the three previous years.

*Overseer David Ross*, of North-East Margaree, reports that owing to unfavorable weather and other natural causes, there is a decrease in the catch of cod of 9,630 quintals compared with last year's catch. Mackerel were scarce throughout the entire season, consequently there is a falling off of 1,232 barrels. On account of the present high prices for codfish and mackerel as compared with former years, fishermen will not feel the decrease in the catch as much as they otherwise would. The catch of salmon in this district was almost the same as last. The shortage in pickled fish is made up by the additional quantity shipped fresh in ice to American markets. There was only one lobster factory in operation during the season; this factory was situated at Pleasant Bay; the factory at Eastern Harbor being closed down during the past season. Margaree River is known now as the Sportsmen's Paradise, and this season it was indeed a real paradise to the large number of anglers who visited it; fly fishing being much better than for many years past. The last week in June and the first part of July found the north-east branch literally alive with salmon and sea trout, particularly the former, which are supposed to be the result of salmon from the fry deposited in the river from the Sydney Hatchery. Poaching was often attempted, but owing to the vigilance of fishery officers, the law breakers were not successful.

*Overseer James Coady* of S. W. Margaree, reports a marked decrease in the catch of mackerel in his district, chiefly due to the absence of these fish on the coast. The catch of cod, haddock, salmon and alewives shows a small increase over last year. This officer reports a slight decrease in herring, salmon and trout. The lobster catch is about half that of 1887. This industry is not carried on very extensively in this district. Drift ice remaining upon the coast until late in the season, caused to a certain extent the shortage in the lobster catch; fishermen being unable to set their traps before the last of May and the season being so short they did not care to engage in the lobster fishery. The Margaree pools were filled with salmon and trout during the season. There were only two violations of the Fishery laws. The guilty parties who set salmon nets in Margaree harbor, could not be discovered; their nets, however, were seized.

## COUNTY OF VICTORIA.

*Overseer D. McRae*, of Baddeck, reports a small increase in the catch of herring and mackerel over last year. The July run of herring made but a brief stay, so that fishermen who were not prepared with salt, &c, fared badly. Taking everything into



consideration, however, it has been a fairly prosperous season for those who followed fishing in this division. The various rivers throughout this district were visited by a much larger run of salmon and trout than formerly; this was particularly the case with Middle River, where the oldest inhabitant states, that never were there so many salmon seen in that river during the spawning season. There were 275 salmon and 50 large sea trout taken from the Middle River for use in the Sydney Fish Hatchery. As many more could have been secured had they been required. The various rivers and streams were well protected and few violations of the law occurred.

*Overseer William Bingham*, Englishtown, reports a more successful fishing season than was at first anticipated. Although herring were scarce the cod fishery was good, and the increase in the price of mackerel more than compensated for the falling off in the catch. Old fishermen attribute the decrease in the catch of fish to the appearance of what is known as "white water," which has a tendency to drive the fish away. The surface of the water over the best feeding grounds was covered with a white frothy substance for the greater part of the summer. During the last of June and July storms proved very injurious to the lobster fishery in this district, hundreds of lobster traps being destroyed. Owing to the presence of drift ice on the coast, which filled the harbors and bays until the second week in June, lobster fishing was short, and, together with stormy weather, accounts for the small catch.

*Overseer Malcolm McIntosh*, of Aspy Bay, reports a falling off in the catch of cod-fish as compared with last year. The fishermen in this division engage extensively in cod fishing. Of late years the fish are found more plentiful late in the season, but the weather is invariably so blustering that fishermen cannot prosecute this calling with vigor. The salmon-fishery, especially at White Point and Bay St. Lawrence, was good, considering the number of nets employed. The mackerel fishery was up to former years, most of the fish being caught with hand lines. Mackerel struck plentifully in Aspy Bay early in September, but Nova Scotia seiners soon drove them away from the coast. Large numbers of herring were taken in seines and thrown overboard to pollute the waters. Lobster fishing was, practically, a failure, owing to the lateness at which the season opened and the disastrous storms which break up traps and moorings.

#### COUNTY OF RICHMOND.

*Overseer D. Cameron*, of St. Peters, reports a decrease in the catch of nearly all kinds of fish in his district. This he attributes to the presence of drift ice on the coast until late in the season and unusually stormy weather at different periods of the summer. The lobster fishery suffered severely from stormy weather, at the factories at L'Ardoise only fished thirty-six days and at Fourchu twenty-five days. This short season was caused by drift ice and stormy weather, the latter proving very destructive to traps. Had it not been for the advance in the price of mackerel and cod, fishermen would fare badly. This officer recommends the employment of special officers at the lobster factories during the season. He finds a disposition on the part of some fishermen to take lobsters under the legal size of nine inches.

*Overseer Francis Marneau*, of Arichat, reports a very large increase in the catch of codfish, haddock and herring. The mackerel fishery was a failure in this district. Fishermen attribute this failure to seiners who visit Chedobucto Bay in the early part of the season, breaking up the schools and frighten mackerel away. Lobster fishing was good in this division during the past season. Several packers were fined for having lobsters in their possession under the legal size; no other violation of the fishery laws occurred.



## NOVA

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in  
and the Total Number of Men Employed, &c., in the

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, in boxes.	
	Vessels.				Boats.		Nets.		Weirs.						
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	No.	Value.					
<i>Annapolis Co.</i>			\$			\$		\$		\$					
Margaretville.....	1	6	300	4	10	200	20	1000	100	...	...	...	500	...	...
Port George.....	...	...	...	...	15	225	30	1500	750	1	100	6000	500	...	...
Port Lorne.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hampton and Young's Cove.....	...	...	...	...	26	400	52	4200	2100	...	...	...	500	...	...
Annapolis River.....	...	...	...	...	8	40	16	80	160	...	...	658	...	...	...
Granville Ferry to Thorne's Cove.....	...	...	...	...	15	300	30	700	350	5	500	...	50	3200	...
Thorne's Cove to Digby Gut.....	2	73	2190	15	38	760	61	812	403	3	300	...	700	3000	...
Litchfield and Hillsburn. Parker's Cove and Young's Cove.....	2	39	1170	8	18	360	4	1200	600	...	...	...	4.1	...	...
S. Side Annapolis Basin. Lequille.....	3	42	1260	9	40	600	6	3000	1500	...	...	...	1780	...	...
Annapolis and Round Bill Rivers.....	...	...	...	...	21	130	2	130	65	10	1500	6	20	4000	...
Indian Lake and River...	...	...	...	...	6	...	...	10	40	1	40	570	...	...	...
Totals .....	8	160	4920	36	199	3079	371	12832	6171	21	2490	7428	6	4461	10200
<i>Antigonish Co.</i>															
Tracadie.....	...	...	...	...	65	1500	13	29000	11700	...	...	9000	870	150	...
Antigonish.....	...	...	...	...	37	700	70	18600	7900	...	...	29000	80	200	...
Morristown.....	...	...	...	...	80	2000	163	40000	16000	...	...	16000	320	350	...
Arisaig.....	...	...	...	...	64	1400	137	33000	13200	...	...	10000	200	300	...
Totals.....	...	...	...	...	246	5600	504	120600	48800	...	...	64000	1470	1000	...

## SCOTIA.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish,  
Province of Nova Scotia for the Year 1888.

KINDS OF FISH.													FISH PRODUCTS.				VALUES.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
	150		150		100	200						1000			40	60	\$ cts.
	150		50	50	50	1200						200			50	60	3,830 00
												41500					4,649 00
																	4,980 00
	155		100			3000	1000	500							6	100	3,489 00
																	131 60
	10				15										100	150	1,325 00
	1740	12	368	1882	1817	16000						152000	2295	2195	1181	214	51,729 50
	517	5	180	527	670	2000						13430	441	598	381	560	12,707 50
	205	3	147	63	64	200						162600	300	75	317	550	29,543 50
	750	7	32	700	800	3550						5000	1400	700	535	425	13,598 00
12							250	500		5							283 00
							600	400		20							316 00
								5000									500 00
12	3677	27	1027	3222	3516	26150	1850	6400		25		375730	4436	3568	2610	2119	127,082 10
80	110			180	200		500	2600	6000	150	250	70000	200	200	1500		31,600 00
88	40			150	40		5000	4000	16000	350	27		210	90	230		14,876 00
120	525			1935	270		12000	250	5000			60000	950	2000	430		32,130 00
150	250			1500	220		500	570	11000				850	3000	300		19,292 00
438	925			3765	730		18000	7420	38000	500	277	130000	2210	5290	2460		97,898 00

## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.								
	Vessels.				Boats.			Nets.							
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon Smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	
		\$			\$			\$							
Cape Breton Co.															
From Marion Bridge to False Bay Beach.....					28	400	45	2240	720	...	3100			2	
From False Bay Beach to Long Beach.....	2	20	450	8	44	800	75	4980	1495	...	1000			17	
From Long Beach to Big and Little Glace Bay and Bridgeport.....	1	10	250	4	28	440	60	2000	600	...	200			1	
From Linga to South Bar and S. side Sydney River	3	30	700	12	50	900	90	3140	1000	...	2300			15	
From Sydney to Cox- heath, Pt. Edward, N. W. Arm and S. side Sydney River.....					25	300	36	1000	300	...				1	
Gabarus.....	2	53	500	15	64	4400	192	7680	1840	...				660	
Belfry.....					5	350	15	400	200	...				40	
Kennington Cove.....					9	270	25	1260	630	...				70	
Louisburg.....	2	50	600	12	45	2700	135	63000	3650	...			9300	450	
Big Lorraine.....					41	2460	92	5060	2530	5	...			240	
Little Lorraine.....					17	900	40	2720	1360	2	...			170	
Bauline.....					10	600	25	850	425	1	...			50	
Lewis Bay and Grand Mira					25	250	20	600	200	...	100	100			
East Bay and Big Pond ..					30	300	30	1260	630	...					
North of East Bay.....					5	100	10	250	70	...					
Escasoni.....					5	100	10	250	70	...					
From George's River to Lloyd's Cove.....	10	200	2800	70	60	1200	120	3000	870	...	630			70	
North Sydney, Leitch's Creek and Ball's Creek					21	420	42	1050	291	...				43	
From Boisdale to Grand Narrows.....					52	1040	104	2600	738	...				4	
Mira Bay.....					43	1720	91	6590	2640	25	2000			154	
Main-a-Dieu.....					52	3120	143	8950	3560	10			2400	150	
Scatarie.....					27	2160	104	2780	1112	12				20	
Total.....	20	363	5350	121	686	24930	1504	121660	24934	55	9330	100	11700	2157	



## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.													FISH PRODUCTS.			VALUE.		
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Haddock, cwt.	Hailbut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	\$	cts.
265	216	395	...	37	40	500	10	2500	.....	3000	40	16	.....	198	1	180	5,972	20
1700	20	1800	...	.....	241	20000	...	400	.....	2500	50	...	21880	900	30	450	22,610	56
300	105	520	...	.....	60	6600	...	3200	.....	3300	45	...	.....	260	2	130	6,024	50
415	6	2100	...	..	255	24000	...	900	.....	3500	50	...	33770	1100	40	525	21,271	90
60	27	50	...	.....	.....	500	...	1400	.....	4000	28	...	.....	25	...	12	1,314	50
1700	.....	2770	...	10	100	160	...	.....	200	.....	.....	...	101280	1880	...	200	42,235	60
60	.....	300	...	.....	.....	.....	...	100	.....	10000	6	...	.....	60	...	20	2,764	00
100	.....	100	...	.....	50	.....	...	.....	.....	.....	.....	...	.....	60	...	36	2,128	00
630	100	2840	...	.....	150	300	...	.....	.....	.....	.....	...	134536	1860	...	250	46,368	32
700	4	1890	...	.....	100	200	...	100	.....	.....	.....	...	.....	1080	...	170	15,175	00
280	2	1270	...	.....	250	.....	...	.....	.....	.....	.....	...	.....	630	...	150	10,268	00
100	2	650	...	.....	260	.....	...	.....	.....	.....	.....	...	.....	350	...	120	5,135	00
.....	100	.....	...	.....	.....	.....	6	300	.....	2000	.....	...	.....	.....	.....	.....	700	00
300	10	150	...	.....	.....	.....	.....	100	.....	.....	5	6	.....	50	.....	.....	1,943	00
600	.....	300	...	.....	.....	.....	.....	1000	.....	.....	5	.....	.....	57	...	12	3,790	80
600	.....	300	...	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	57	...	12	3,690	80
500	19	3006	...	.....	395	4000	...	500	.....	800	24	...	.....	553	...	120	17,980	70
290	28	540	...	.....	10	1500	...	900	...	2600	8	...	.....	103	...	21	4,679	70
42	.....	630	...	.....	.....	.....	.....	450	.....	900	9	.....	.....	119	...	28	3,026	60
950	25	2100	2	30	210	7200	...	.....	10	.....	7	...	.....	800	...	200	17,852	50
1000	30	3000	...	50	400	7150	...	.....	10	.....	4	...	24000	1400	...	300	25,390	00
400	40	2700	...	40	480	8000	...	.....	15	.....	.....	...	.....	1700	...	350	17,217	00
10992	734	27405	2	167	300	180050	16	11850	235	32600	286	22	315474	13242	73	3286	271,538	68

## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				
	Vessels.				Boats.		Nets.		Weirs.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	No.	Value.	
Colchester Co.			\$		\$		\$		\$		
Stirling .....					4	60	11	400	200		
Lower Stewiacke. ....					8	48	8	120	72		
Forest Glen .....					5	30	5	70	42		
Middle Stewiacke. ....					3	18	3	40	30		
Masstown .....					5	200	10	1500	250		
Little Dyke. ....					8	240	16	2400	320		
Great Village Point. ....					5	160	10	1600	300		
Highland Village. ....					3	90	6	1000	120		
Five Houses .....					1	35	2	400	50		
Birch Hill. ....										1	400
Bass River .....					1	30	3	350	50	1	200
Little Bass River .....										1	200
Upper Economy. ....					2	75	7	700	80	3	750
Economy Point. ....										2	800
Central Economy. ....										2	700
Lower Economy. ....										3	400
Five Islands .....					5	150	10			2	400
Olifton. ....					3	20	6	400	150		
Black Rock .....					2	75	4	1000	400		
Prince Port. ....					2	100	4	600	200		
Totals. ....					57	1331	105	10580	2264	15	3850
Cumberland Co.											
Pugwash and Port Philip. ....					4	80	4	32	40		
Pugwash River. ....					2	20	2				
Gulf Shore .....					16	400	16	12	12		
Wallace .....					50	900	60	1200	480		
La Planche River. ....					2	40	4	400	300		
Nappan .....					1	20	2	32	30		
Minudie .....					3	60	6	500	350		
Apple River. ....	1	15	300	2	3	60	6	350	300	1	100
Advocate. ....					13	200	26	420	320		
Spencer's Island and Port Greville. ....					12	180	30	360	300	2	100
Parrsboro'. ....					7	130	14	200	220	2	100
Two Islands. ....					2	40	4	150	100	1	50
River Philip. ....	1	32	1200	4	2	40	12	140	200		
Totals. ....	2	47	1500	6	117	2170	186	3796	2652	6	350

## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.																	FISH PRODUCTS.		VALUE.
Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	\$	cts.
900	5	60	75						6	400	200	31000		5			40	2,268	75
600									7		150							284	00
400									1		200							205	00
1000									14									110	00
1200									20									340	00
1000									12									440	00
1500									10									320	00
250									2									400	00
									6									70	00
250									5									60	00
									6									100	00
315									20									60	00
									5									263	00
									4		1000							50	00
		1500			20				5									140	00
					120				8		700					10		509	00
110									9							75		660	00
265									11									112	00
135									20									163	00
																		227	00
7925	5	60	1575		140				171	400	2250	31000		5			40	6,781	75
				160															
		10												30				720	00
															128400			90	00
	5	700		300	5			2	200	1000	30000	5	10	124000		550		21,991	24
375				12				40			500							21,962	00
300				4				10			200							559	00
400				6				40			300							190	00
800	100				100	50	100	600		100		200						525	00
600	70				80	60	85	500										1,638	00
200	80				120	70	100	700								50		1,350	00
500	30				50	60	100	500										1,610	00
500	30				40	30	60	200										1,110	00
3750				440					14		1505		15	25				760	00
																		3,245	00
7425	5	1020	922	395	270	445	2500	106	300	2500	140254	20	65	252400	50	550	55,750	24	



## RETURN showing the Number, Tonnage and Value of Vessels and Boats Engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.								
	Vessels.			Boats.			Nets.		Weirs.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, in boxes.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.					Value.
		\$				\$			\$		\$				
Digby Co.															
Digby .....	12	414	7000	86	10	450	20	1800	1200	12	1500	100	220	2000	
Broad Cove.....					11	500	22	900	600				450		
Gulliver's Cove.....					8	300	16	800	570			2000	140		
Shelving Cove.....					6	300	14	760	535				190		
Centreville.....					22	1000	44	1800	1200				310		
Sandy Cove.....					14	575	28	1500	1000			1000	250		
Little River.....					43	1800	86	2580	2500				750		
Weymouth.....					15	620	30	730	680	2	140		200		
Church Point.....					14	600	28	720	670				350		
Meteghan.....					8	310	16	800	580				200		
Salmon River and Cape															
St. Mary.....	1	30	600	8	43	1800	88	2450	2400				550		
Head St. Mary's Bay...															
Westport.....	25	500	20000	190	45	1400	130	15000	8000	5	400		8	700	
Freeport.....	18	360	14500	142	90	3000	260	13000	7000					850	
Tiverton.....	5	100	3500	45	48	1800	140	8000	4500					200	
Totals.....	61	1404	45600	481	377	14455	922	50840	31435	19	2040	3100	8	5368	2000

## the Fisheries, Quantity and Value of Fishing Materials, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.											FISH PRODUCTS.			VALUE.	
Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fish Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	
4000	.....	700	2500	5300	40000	...	1000	.....	5	600	.....	6800	1540	1550	\$ cts.
460	.....	90	1000	1000	2000	.....	.....	.....	.....	.....	490	980	550	600	61,347 00
355	.....	100	760	700	2500	.....	.....	.....	.....	.....	300	400	315	375	14,207 00
380	.....	150	800	600	2000	.....	.....	.....	.....	.....	350	600	335	80	9,990 00
2000	.....	640	3500	2000	3500	.....	.....	.....	.....	.....	950	2500	900	600	9,812 50
1000	.....	520	1600	1300	2700	.....	.....	.....	.....	.....	600	975	500	600	37,750 00
3540	.....	540	2400	2000	2000	.....	.....	.....	.....	.....	900	3400	1200	700	21,190 00
300	.....	550	800	700	600	.....	.....	.....	.....	.....	340	1200	800	700	41,530 00
380	.....	495	750	650	670	.....	.....	.....	.....	.....	300	80	800	680	12,630 00
450	.....	300	380	400	3000	.....	.....	.....	.....	.....	160	800	500	550	12,439 00
5800	.....	2500	1700	300	14000	.....	.....	.....	10	.....	350	3000	1220	500	8,725 00
.....	.....	.....	.....	.....	.....	30	.....	2000	.....	.....	.....	150	100	200	48,530 00
35000	45	22100	14400	27500	100000	.....	.....	.....	40	.....	14100	54500	5500	500	882 00
25600	35	14500	8200	16100	56900	.....	.....	.....	.....	.....	8200	34250	4600	650	454,050 00
4000	10	3000	1450	2900	10000	.....	.....	.....	.....	27300	1400	6200	1000	200	296,165 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	56,056 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,350 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,000 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,600 00
83265	90	46185	40240	61450	239870	30	1000	2000	55	27900	28440	115635	19860	8485	1,139,253 50

\* Live Lobsters shipped to United States, 810 tons, at \$35 ..... \$28,350

† Haddock shipped fresh to St. John N.B., 600,000 lbs., at 4c..... 24,000

‡ Finnan Haddies, 40,000 lbs., at 4c..... 1,600

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, Smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.
	Vessels.			Boats.			Nets.		Weirs.								
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.						
<i>Guysboro' Co.</i>			\$		\$			\$		\$							
From E. Side Beckerton to E. Side New Harbor.....	5	323	17500	70	191	4600	258	87520	10940	...	...	...	...	...	...	...	690
From thence to East Side of Whitehead.....	8	149	2900	46	363	8825	479	254320	31790	...	...	3	...	...	...	...	1110
From thence to North Side of Canso and Tittle.....	1	26	900	10	180	5300	340	116800	14600	23	3300	35	4000	...	...	...	342
From Tittle to Salmon River and S. Side Chedabucto Bay.....	...	...	...	...	248	4502	310	133200	16650	17	3400	4	...	...	...	...	122
Guysboro', N. Side of Bay and Strait of Canso.....	8	376	11900	62	283	4614	427	276000	34500	8	1400	50	...	...	...	...	817
13 Cannaries.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3312	...
Traps.....	...	...	...	...	...	...	...	...	...	16	8000	...	...	...	...	...	459
Vessels.....	Tonnage, value and men given above.....																
St. Mary's Bay.....	...	...	...	...	28	500	50	3500	650	...	...	4	3300	350	200	...	5
Gegogin Harbor.....	...	...	...	...	10	200	15	750	200	...	...	2	300	100	...	...	2
Port Hillford.....	2	135	4000	10	20	360	40	3500	700	...	...	900	...	...	...	...	...
Beckerton and Holland's Harbor.....	...	...	...	...	40	1000	70	3000	850	...	...	...	400	150	...	...	10
Wine Harbor.....	1	10	400	3	30	500	50	2800	900	...	...	...	3000	500	...	...	20
Liscombe & Spanish Bays.....	...	...	...	...	96	3200	140	9000	1250	...	...	...	250	450	...	...	10
Marie Joseph.....	...	...	...	...	60	1500	120	7500	1100	...	...	...	300	560	250	...	15
Ecum Secum.....	...	...	...	...	50	1000	80	950	240	...	...	...	1200	600	100	...	6
St. Mary's River, Lakes and Head of Country River.....	2	91	1500	8	30	460	35	1280	480	...	...	120	19400	750	260	...	...
Totals.....	27	1110	39100	209	1629	36561	2414	900120	114850	64	16100	1118	32150	3460	4122	3971	



the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—*Con.*

KINDS OF FISH.														FISH PRODUCTS.		VALUE.		
Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	\$	cts.
.....	927	129	2740	....	....	416	1350	....	....	2800	.....	6000	10	.....	1360	232	30,129	50
..	2664	436	3905	.....	....	2666	80	....	....	4400	.....	1800	63	.....	2007	566	58,510	80
.....	81	....	3500	.....	....	500	1000	....	....	500	150	4000	55	.....	1750	210	25,369	00
.....	608	....	1804	.....	....	1390	.....	....	....	400	.....	.....	.....	.....	904	455	19,746	10
.....	3136	114	1355	.....	....	1157	.....	....	....	1000	....	2000	15	.....	670	384	37 374	00
4752	154	70	18	.....	....	607	6048	.....	....	.....	976	.....	.....	716	112	.....	87 605	28
.....	465	8	6880	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,220	00
.....	320	2	350	5	50	1100	.....	.....	.....	500	25	800	10	55060	200	1000	35,788	00
.....	50	2	230	.....	25	500	.....	.....	.....	1500	5	1000	5	.....	120	200	12,433	20
.....	400	10	200	10	25	25	2000	.....	.....	1800	10	3000	15	.....	150	800	2,049	00
.....	350	....	350	15	50	800	.....	.....	.....	2400	20	1500	20	70850	200	900	14,012	00
.....	400	....	200	5	20	1200	.....	.....	.....	800	15	2000	15	.....	110	460	4,794	00
.....	210	35	2500	10	40	3500	.....	.....	.....	3000	.....	4000	25	109400	2000	1500	28,865	50
.....	200	15	600	20	50	400	.....	.....	.....	500	10	1200	50	41188	250	1800	12,566	20
.....	40	....	110	5	20	400	.....	.....	.....	7000	15	1500	20	15000	50	1100	5,740	00
.....	310	123	1800	.....	....	.....	2400	2	100	18500	.....	1000	10	.....	950	1260	19,528	50
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*312	00
4752	10316	944	26542	70	25	7016	31508	2	100	44700	1626	29800	313	1007607	13001	10867	428,198	08

\* Herring, smoked, in cans ; 3,120 cans at 10 cts.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, &c.—Nova Scotia—Continued.

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.				FISHING MATERIAL.				KINDS OF FISH.			
	Vessels.		Boats.		Nets.	Weirs.		Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Mackerel, in cans.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	
<i>Halifax Co.</i>												
North Shore.....	3	75	2,400	18	208	6,240	192	45,200	\$ 4,520	48	9,600	3,350
East St. Margaret's Bay.....	4	80	3,200	24	176	5,280	186	47,300	4,730	67	13,400	2,100
Indian Harbor.....	8	180	4,500	48	140	4,320	120	19,700	1,970	38	7,600	1,500
Peggy's Cove.....	.....	.....	.....	.....	93	2,880	100	65,700	6,570	62	12,400	400
Dover.....	8	160	5,500	48	110	3,380	125	60,000	6,000	48	9,600	200
Prospect.....	5	120	4,000	30	400	12,000	355	250,000	25,000	97	19,400	660
Terrence Bay.....	8	160	6,400	48	130	3,900	125	48,000	4,800	35	7,000	7,800
Pennent.....	5	75	3,200	24	75	3,000	98	19,700	2,364	10	2,000	220
Sambro.....	6	90	3,800	24	150	6,000	140	18,600	2,332	4	1,200	150
Keitch Harbor.....	2	40	1,200	12	100	3,000	96	24,500	2,700	11	2,200	125
Portuguese Cove.....	.....	.....	.....	.....	65	1,625	82	102,500	12,300	20	4,000	180
Herring Cove.....	14	350	11,000	86	100	3,000	100	40,000	4,800	42	8,400	13,800
Ferguson's Cove.....	1	25	800	7	20	400	25	14,000	1,680	32	6,400	372
Bedford.....	.....	.....	.....	.....	12	250	20	4,500	540	3	1,600	210
Halifax.....	3	210	6,000	36	.....	.....	.....	.....	.....	.....	1,500	900
Home Consumption for above Dis- tricts.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scum Secum to Quoddy.....	2	74	1,250	11	138	2,617	130	6,674	644	1	400	3,220
Sober Island to Sory Bay.....	6	172	3,070	29	122	2,512	129	36,670	2,854	.....	.....	120
Gerrard's Island to Ship Harbor.....	2	63	850	14	153	3,272	163	33,570	2,485	.....	.....	2,138
Clam Harbor to Petpeswick Harbor.....	11	249	6,530	71	254	6,102	225	39,186	3,231	2	1,000	1,297
												540
												2,328
												420
												284

East Chezzetcook to Seaforth.....	16	444	16,830	135	212	2,918	142	52,050	3,433	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Three Fathom Harbor to Eastern Passage .....	2	35	750	11	122	1,858	139	39,380	2,771	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	106	2,582	81,280	677	2,782	73,474	2,689	995,179	95,624	520	106,200	1,500	52,491	3,706	8,567	134	58	.....	9,936





East Chezzetcook to Seaforth .....	1,401	621	7,240	3	....	10	267	560	350	2,000	11	.....	2,316	4	435	39,961
Three Fathom Harbor to Eastern Passage .....	543	91	1,461	3	....	24	514	4,719	570	34,869	16	.....	539	45	115	15,354
																24
																*45,500
																00
Totals. ....	33,048	654	53,858	471	7	11,320	4,697	205,829	5,870	50,919	208	963,408	64,968	11,543	5,613	817,808
																42

\* Fresh fish sold in the Halifax fish market.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.			FISHING MATERIAL.				Salmon, fresh, in ice, lbs.
	Boats.			Nets.		Weirs.		
	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	
<i>Hants Co.</i>		\$			\$		\$	
Shubenacadie River and Mait- land .....	20	500	25	2,000	600			3,000
Selmah .....	2	75	4	800	210			600
Noel .....	1	40	2	300	125			300
Tennicape .....	3	150	6	1,050	400			340
Walton .....	2	100	4	1,100	375			290
Grand Lake to Shubenacadie.	110	440	110	1,320	570			2,340
West Hants .....	5	200	10	1,000	350	11	1,100	150
Totals .....	143	1,505	161	7,570	2,630	11	1,100	7,020



the Fisheries, Quantity and Value of Fishing Material, &c — Nova Scotia — *Con.*

KINDS OF FISH.								[FISH PRODUCTS.			VALUE.
Herring, barrels.	Alewives, Barrels.	Cod, cwt.	Halibut, lbs.	Shad, barrels.	Bas, lbs.	Smelts, lbs.	Eels, barrels.	Fish Oil, gallons.	Fish guano, tons.	Fish used as bait, barrels.	
											\$ cts.
.....	200	.....	.....	10	2,100	.....	5	6	.....	.....	1,778 40
.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	200 00
.....	.....	7	.....	5	.....	.....	.....	3	.....	.....	139 20
.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	268 00
.....	.....	12	.....	6	.....	.....	.....	6	.....	.....	168 40
.....	840	.....	.....	96	940	.....	195	.....	.....	.....	7,214 40
150	.....	1,100	200 *	25	.....	200	.....	.....	.....	.....	5,312 00
150	1,040	1,119	200	170	3,040	200	200	15	.....	.....	15,080 40

## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						
	Vessels.			Boats.			Nets.		Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.					
			\$			\$		\$					
Inverness Co.													
Low Point.....					12	120	25	800	400				20
Cregnish.....					18	180	36	1200	500	25	2000		40
Long Point.....					22	220	64	1800	1000				80
Judique.....					50	500	120	3200	1500				60
Little Judique.....					54	680	162	6800	4000				100
Port Hood.....	1	12	300	3	160	6000	500	3000	10000	6	500		300
Mabou.....					55	800	160	3600	1500	24	1200	500	400
Coal Mines, Mabou.....					20	250	40	1000	500	15	400		20
Sight Point.....					15	150	30	900	400				10
Whycocomagh.....					10	100	16	500	250				
Port Hawkesbury.....	6	436	14000	75	25	400	70	16000	4000	200	10000		1200
Port Hastings.....					20	300	60	15000	3800				200
West Bay.....					13	150	20	700	400				
North Mountain.....					40	550	80	3500	1900				
Malagawatch.....	1	15	200		34	440	68	2000	1100				
Boom.....					14	200	28	1200	600				
Basin River, Dennis.....					12	120	20	720	450				
River Dennis.....					2	10	4						
River Inhabitants.....					4	40	8	600	300				
S. Side Whycocomagh.....					6	60	12	900	400				
Big Pond.....					25	1000	80	1350	750				50
Mill Brook.....					2	75	7	100	60				5
Cariboo Cove.....					4	125	14	216	170				15
Friar Head.....					2	50	6	180	70				5
Prosper's Cove.....					4	130	15	200	165				16
Brazil's Cove.....					5	140	17	225	180				20
Philibert's Cove.....					6	170	20	250	260				35
Pleasant Bay.....					20	400	60	200	100			1440	225
Eastern Harbor.....	3	100	1050	18	78	3000	243	2830	2250	25	2400		352
Cape Rouge.....					17	510	51	500	450				100
Cheticamp Point.....					47	1800	150	1800	900	25			
N. E. Margaree.....											3500		
Delaney's Cove.....					7	360	21	640	350				25
Doucet's Cove.....					6	300	18	480	500		1200		30
East Margaree.....					25	1800	82	4200	3800		1400		50
West Margaree.....	5	103	4200	33	5	250	14	1200	1400		26200	9592	20
Margaree Forks.....											1100		
Margaree River.....													
Margaree Island.....					20	400	45	480	350				150
Broad Cove Marsh.....					12	250	30	420	200				50
Port Bain.....					7	200	18	450	240				10
Broad Cove Shore.....					14	190	35	520	340				22
Coal Mines.....					5	150	10	400	360			2976	12
Lake Outlet and Loch Bain.....					6	35	12	150	50				
Trout Brook.....													
Totals.....	16	666	19750	132	903	22605	2471	107211	45885	320	49900	14508	3262 400

## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.													FISH PRODUCTS.			VALUE.	
Herring, barrels.	Al. wives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Roes, barrels.	Fish used as bait, barrels	\$	cts.
60		40			25				1500				25		50		975 00
50		100			40								25		60		2,260 00
160		200			60		2500	50	5000	30			100		100		4,120 00
300		200			40		2500	60	4000	40		29945	150		150		8,068 40
2000		850		250	450		1200	50	3000	40			350	800	200		17,840 00
200		4800		500	400		1000	150	1000	50		71438	2000	4200	500		51,126 58
140		1000		50	250	1200	1000	50	2500	20	10	20724	500	100	200		10,945 88
100		400			50	200	2000	10	4000	15		8043	100	50	100		4,675 16
100		100			25								50				1,070 00
140		400					5000		5000	70	300		20		30		4,613 00
1400	200	2000	20	100	300		1000	50	1000	30			1000	4000	50		44,635 00
400		400		50	150		1000	10	3000	60			300	200	30		8,185 00
260		240					1500		1000	20			50		20		2,460 00
1300		450					50		1000	20			90		60		7,436 00
1100		400					2000		1500	70	100		80		50		7,397 00
400		280					1600		3000	60	300		50		30		4,615 00
320		200					2000		3000	60	250		50		20		3,860 00
							3000		2000	20							620 00
							3000		2000	25							700 00
60	20	400					2000		2000	75	80		30		20		3,282 00
400		2350		25	350			80		20			1400				14,330 00
10		60		6	10			4					30				447 00
25		150		10	20			8					80				1,109 00
10		65		6	12			4					30				475 00
24		170		15	25			7					85				1,238 00
30		200		20	35			12					100				1,528 00
40		170		35	50			15					225				1,875 00
50		150						45				24000	150				7,511 00
		5070		70	270			390					4930				33,734 00
25		500		20	20			170					250				4,540 00
		3600		40	250			500					3600				19,400 00
							2500										950 00
50		520			64	500							280		25		3,110 50
65		640			70	700							340		20		4,026 00
340	20	3600			400	3000	850			12			920		85		19,480 50
80	200	2700			300	1500	600					8432	1400		80		22,180 64
10	140	20					1400			5			140				1,216 00
	20						2000			15							1,340 00
180		580		54	60	1200							100		40		5,966 00
60		190			48	400						3800	80				2,521 00
50		120			40								40		10		1,033 00
200		220			54								200		22		2,339 00
20		50			12							7341	40		16		1,575 32
																	548 00
	60						780		20								1,040 00
							10400										
11959	860	34190	20	1251	3880	8700	51230	1665	46000	775	1040	173723	19390	9450	2010	342	69456



## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.									
	Vessels			Boats.			Nets.		Weirs.		Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, in boxes, <sup>500</sup>	Alewives, barrels.
	No.	Tonnage.	Value.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.						
<i>King's Co.</i>			\$		\$			\$	\$							
Gaspereau.....				12	200	15	2000	325			700					300
Aylesford.....				7	140	7		200			1800					
Kentville.....																
Avonport.....							1760	400	1	500						
Bout Island.....							2200	300	1	400						
Blomidon.....	1	10	150	3			400	280	4	400	200			20	200	
Baxter's Harbor	1	10	250	3	17	320	800	290	1	150	800			235	500	
Black Rock.....				9	135	18	500	150	4	800	9250			850	12500	
Canada Creek.....				6	120	10	250	100						100	500	
Hall's Harbor.....	3	41	800	8	21	420	1395	730	4	1000	24000		10	420	500	
Harborville.....	3	52	1250	9	7	250	2000	500	7	900	2625			2430	2750	
Kingsport.....	1	11	150	3			1050	300	1	350	200			4		
Long Island.....							3035	350	2	550						
Morden.....				3	50	6	250	210	2	300	4200			330		
Medford.....							223	100	2	300				15	100	
Pereaux.....	1	12	200	3			200	100						250		
Starr's Flats.....							49.0	1500	4	1850						
Scott's Bay.....				2	35	6	7950	1900	6	2500	150			40	1500	
<i>Lunenburg Co</i>	10	136	2800	29	84	1670	28933	7655	39	10000	43925		10	4694	18550	300
Chester.....	3	99	2100	30	67	1320	70	17200	3285	3	2400	8985	500	130	125	200
Martin's River..	2	172	8500	32	55	1210	55	11400	2255		1555	75	8	65		64
Fox Point.....	2	63	3600	17	76	2225	154	65360	8930		850		127	410		
Mill Cove.....	1	21	400	5	74	1680	86	53000	6970		1655		359	197		
Lodge.....				21	385	31	14900	1850			205		65	54		3
N. W. Cove.....	1	13	400	5	47	1700	56	32200	4100		3095		240	245		6
Aspotogen.....	1	14	400	3	25	600	30	10400	2000		220	100	75	90		
Sandy Beach.....				38	840	41	32500	3390			510		134	203		
Blandford.....	1	56	1000	11	72	1915	72	58000	7600		450	30	205	30		3
Little Tancook..				44	1365	48	44500	7200			210		205	496		6
Big Tancook.....	1	16	400	4	179	78.5	19	124000	18000		750		635	1520		33
Deep Cove.....				23	515	3	18700	2700	1	600	395		86	54		38
Lunenburg to Cross Island..	80	3900	285500	890	250	3150	525	12000	9000		600	400	5000	13000		50
Mahone Bay to to Martin's Riv & Island	25	1467	73100	284	210	2644	420	2800	1800		400	200	800	3500		25
La Have River to Middle La Have.....	34	2030	95500	220	400	3500	500	8000	6000		500	400	1800	12000		25
W. S. La Have River to New Dublin.....	42	2150	93800	466	350	3500	560	12000	10000		500	250	2500	14000		50
Totals.....	193	10001	564700	1967	1931	34266	2475	516360	95020	4	3000	20880	1951	13592	46264	503

\* Live lobsters shipped to United States—15,000 at 4c., \$600.

## the Fisheries, Quantity and Value of Fishing Material. &amp;c—Nova Scotia—Con.

KINDS OF FISH.											FISH PRODUCTS.					VALUES.		
Cod, cwt.	Cod Tongues and Sounds, brls	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons,	Hake Sounds.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels	\$	cts.
.....	.....	.....	.....	.....	.....	1000	.....	7000	10	.....	.....	.....	.....	.....	.....	.....	2,110	00
.....	.....	.....	.....	.....	.....	450	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	405	00
.....	.....	.....	.....	.....	.....	2000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	00
.....	.....	.....	.....	.....	.....	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	00
.....	.....	.....	.....	.....	.....	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	00
47	.....	.....	.....	.....	400	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	438	00
210	.....	70	.....	110	.....	.....	.....	.....	.....	.....	.....	20	.....	60	200	2,983	00	
180	.....	180	.....	120	.....	.....	.....	.....	.....	.....	.....	350	.....	300	35	11,060	00	
75	.....	50	.....	175	.....	.....	.....	.....	.....	.....	.....	100	.....	70	100	1,920	00	
361	.....	184	.....	202	.....	.....	.....	.....	.....	.....	.....	250	.....	200	500	10,93	00	
172	.....	45	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	38	400	12,217	50	
130	.....	.....	.....	.....	.....	7	.....	.....	.....	8	.....	.....	.....	5	100	783	50	
.....	.....	.....	.....	.....	.....	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	00
120	.....	.....	.....	80	.....	2	.....	.....	.....	.....	.....	.....	.....	20	150	3,065	00	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130	00
.....	.....	.....	.....	.....	.....	62	.....	.....	.....	.....	.....	.....	.....	.....	60	.....	1,030	00
20	.....	.....	.....	9	500	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	620	00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,863	50
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600	00
1315	.....	529	.....	736	900	266	3450	.....	7000	18	.....	745	.....	708	2110	.....	50,728	50
211	.....	220	.....	.....	.....	780	105	610	22	77700	.....	80	.....	45	65	.....	17,181	60
2610	20	350	.....	4400	.....	430	35	735	21	.....	.....	2400	100	52	.....	.....	16,159	10
556	.....	24	1530	46	1600	185	75	.....	2	.....	.....	1130	7800	163	60	.....	38,636	50
183	.....	.....	.....	2	.....	116	44	170	5	.....	.....	133	2	23	36	.....	7,007	50
111	.....	21	.....	.....	.....	.....	8	.....	.....	.....	.....	75	.....	9	4	.....	1,851	00
224	.....	42	.....	105	.....	.....	29	.....	3	.....	.....	189	.....	28	23	.....	6,986	60
84	4	.....	.....	.....	100	46	15	.....	.....	42000	.....	46	.....	25	10	.....	7,100	50
130	.....	.....	.....	.....	.....	210	12	.....	.....	.....	.....	92	.....	12	14	.....	3,574	80
1275	6	14	250	.....	800	.....	60	.....	9	.....	.....	980	200	50	35	.....	11,685	00
486	.....	.....	42	200	.....	33	33	.....	.....	.....	.....	427	.....	34	44	.....	7,646	80
1480	.....	300	250	595	.....	36	.....	.....	.....	40000	.....	990	115	105	45	.....	29,793	00
61	.....	.....	.....	.....	.....	110	40	250	14	.....	.....	00	.....	7	23	.....	2,388	00
125000	120	8000	6000	30000	60000	.....	1500	150	2000	75	15000	70000	.....	120	1500	1075	847,832	50
21000	40	2500	2000	6000	25000	.....	2500	.....	2000	50	.....	22000	.....	30	400	250	166,277	50
26000	30	4500	2500	10000	38000	.....	1000	75	1500	60	.....	24000	.....	50	600	500	264,482	50
40000	35	5000	3000	8000	45000	.....	1600	125	4000	80	20000	48000	.....	80	1200	800	350,225	00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	400	00
219411	255	20321	15932	54445	175695	.....	8477	862	11265	341	194700	170642	8217	280	4258	2987	1,779,821	00

† Scallops, 800 dozen, at 50 cents.

## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.		Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Mackerel, in cans.
	Vessels.				Boats.		Nets.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.				
<i>Pictou Co.</i>			\$			\$		\$				
Pictou Island .....					47	940	102	425	400		40	300
Chance Harbor .....					14	280	3	1700	1700	9100	50	
Little Harbor .....					12	240	26	1550	1550	12500	30	
Big Island .....					17	350	35	2500	2000	22000	80	300
North Beach .....					4	80	8	650	650	10000		
Ponds .....					12	230	20	1500	1500	16800	22	
Lismore .....					10	200	22	700	700	17000	10	
Merigonish .....												
West Pictou .....	2	60	3000	6	85	1300	164	5000	2500	4000	148	
<i>Queen's Co.</i>	2	60	3000	6	201	3620	412	14025	11000	91400	380	600
Liverpool .....	7	426	30798	94	12	163	16	630	215	4560		
Port Mouton .....	4	160	6750	30	80	1900	130	5000	4012	100	8	
Brooklyn .....	4	91	3050	25	18	383	33	1100	295	2730	6	
Port Joli .....					23	480	33					
Port Lebert .....	2	34	275	6	7	100	7					
Somerville .....					5	75	10	240	200			
Hunt's Point .....					13	390	20	1200	130			
White Point .....					7	200	14	1600	800		2	
Beach Meadows .....					6	80	6	240	75	250		
Coffin Island .....					18	203	18	860	344	20		
Eagle Head .....					9	160	12	300	91	820		
West Berlin .....					18	270	19	960	384	150		
East Berlin .....					13	140	10	1100	385	910		
West Head .....					27	391	39	1980	666		4	
Moose Harbor .....					6	90	11	500	200	30		
Black Point .....					8	115	9	700	245	80	5	
Milton .....					10	120	15	144	65	3665		
Gull Island .....					6	117	8	240	136			
East Head .....					7	105	7	300	120	400		
Mill Village .....					57	420	53	1950	710	3050	580	
Port Medway .....	9	787	33900	136	58	1324	91	8770	1860	11795	225	320
Ponhook .....					6	60	31	240	130	2650	150	
Totals .....	26	1498	74773	291	414	7291	592	28104	11063	31210	955	345



## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.												FISH PRODUCTS.				VALUE.	
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Hake Sounds, lbs.	Fish used as bait, barrel.		
210		119			170							175000	50	120	500	20	24,332 00
180		210			60								60	60			4,454 00
350		160			80					600	80		40	80			6,242 00
90		110			100						20	28800	55	100	300	80	11,104 00
																	2,000 00
74		50			120					1000	82		60	120			5,690 00
30		40			160					2500	3		60	160			4,834 00
		14								12000	350						4,276 00
310	50	100			60			200		5500	24	333120	210	1352	400	3500	51,675 40
1244	50	803			700			200		21600	779	536920	535	1992	1200	3600	114,607 40
170	16	8501	50		11	600	3200	12					2875		18	70	37,852 00
200	12	2000	210	20	50	700	100	50			10	56440	1756		125	2500	18,626 70
105	30	2151	6		41			37			2		710		52	50	10,574 00
	50	74			10		200			1100	10		56		25		806 80
		250	10		40		100				5		75		75		1,462 50
10		50											20		25	10	290 50
100		450			10	400					10		300		40	100	2,610 00
100		300			10	600	200	40					210		40	100	2,104 00
60		30			5								20		5	20	455 50
260		117	5		26	150		10					75		40	50	1,836 00
12		56			5	200		6					25		10	10	530 00
56	5	101			6	100		5					46		12	20	780 90
22	4	44			6			5					22		10	12	537 80
355		493	10		64	450		22					269		31	311	4,250 60
88		54			12			10					30		10	35	706 50
169		119			29			18				30000	80		20	40	5,113 00
	60																1,003 00
52		117			7	300							60		14	30	794 00
30		50			5	150		2					30		15	50	502 50
	1285						1500		17500		13						7,838 50
714	1151	14810	41	2500	10	6500		1475	80	5200	23	48600	5800		320		95,073 50
	530										5						3,142 50
																	*10,038 00
2503	3143	29767	124	10	2520	347	10150	6775	297	23800	78	135040	12459		887	3408	206,928 90

\* Clams, 600 barrels at \$7.00 per barrel.....\$4,200  
 Live Lobsters, shipped to United States, etc., 64,700 at 4 cts. each ..... 2,588  
 Fresh Cod, 50,000 lbs., at 4 cts. per lb..... 2,000  
 Offal of Lobsters, 2,500 barrels at 50 cts. per barrel..... 1,250

\$10,038

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.		
	Vessels.				Boats.			Nets.	
	No.	Tonnage.	Value.	Men	No.	Value.	Men.	Fathoms.	Value.
Richmond Co.									
Arichat.....	2	80	1200	20	60	800	120	40000	5000
Arichat, West.....	2	80	1200	20	80	1000	140	30000	4000
Petit de Grat.....					90	950	180	70000	8000
Cape Au Guet.....					50	700	100	40000	6000
Port Royal.....	2	40	900	12	12	400	24	20000	3000
D'Escousse.....	18	750	17240	212	30	15	60	50000	7000
Polimand.....	3	120	3730	30	10	100	20	1000	5000
Port Richmond.....	4	160	3800	40	5	100	10	900	400
Cape Le Rond.....					20	300	40	4000	2000
Rocky Bay.....					40	600	80	8000	4000
Little Anse.....					50	800	100	8000	4000
Gros Nez.....	1	40	600	10	60	900	100	8000	4000
River Inhabitants.....	3	120	1900	18	10	200	20	9000	5000
Black River.....					10	200	20	900	400
Lower d'Escousse.....	4	16	2300	40	40	200	80	1000	500
Martinique and Lennox Ferry.....					12	400	24	1000	500
Fourchu.....	2	42	1450	8	35	1300	87	3780	1050
Framboise.....					5	160	11	1000	250
St. Esprit.....					10	240	20	2700	950
L'Archevêque.....					12	340	24	3024	840
Grand River.....					34	850	68	9792	2720
Point Michaud.....					15	300	39	2500	700
L'Ardoise.....					300	5600	600	84000	14400
St. Peter's Island.....					52	880	104	6480	3780
St. Peter's.....	3	70	1000	17	35	550	70	7000	1300
River Bourgeois.....	26	650	13000	188	20	240	30	2450	890
Totals.....	70	2312	48320	615	1097	18260	2171	414526	85630

## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.													FISH PRODUCTS.		VALUE.	
Salmon, barrels.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels	Pollock, cwt.	Haddock, cwt.	Smelt, lbs.	Eels, barrels	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.		
															\$	cts.
.....	1000	300	2000	3000	200	1500	10	2000	30000	.....	.....	200900	60	.....	176	072 00
.....	.....	100	.....	.....	100	600	10	600	.....	800	10	25000	60	.....	10,022	00
5	.....	100	3000	300	20	700	20	.....	600	.....	.....	300000	60	.....	44,654	00
.....	.....	80	.....	500	20	1000	10	.....	1000	.....	.....	.....	70	.....	11,418	00
.....	.....	20	.....	400	10	600	5	.....	600	1000	.....	.....	60	.....	6,879	00
.....	.....	30	.....	300	.....	35000	50	.....	100	.....	.....	22000	100	.....	14,230	00
.....	.....	.....	.....	50	.....	4000	35	.....	.....	.....	.....	.....	500	.....	16,750	00
.....	.....	.....	.....	50	20	600	10	.....	.....	.....	20	.....	50	.....	3,010	00
.....	.....	80	.....	600	10	300	5	.....	200	.....	20	70000	60	.....	14,319	00
.....	.....	50	.....	200	.....	100	5	.....	100	.....	.....	.....	60	.....	2,424	00
.....	.....	20	.....	200	.....	600	10	.....	500	.....	.....	130000	50	.....	21,220	00
.....	.....	10	.....	300	.....	100	5	.....	100	.....	.....	.....	20	.....	2,208	00
.....	.....	.....	.....	300	50	60	.....	.....	.....	.....	20	.....	20	.....	1,873	00
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	620	00
.....	.....	30	.....	200	20	2000	20	.....	50	.....	.....	30000	10	.....	13,344	00
.....	.....	.....	.....	20	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	170	00
.....	.....	35	.....	70	.....	2100	.....	.....	.....	.....	.....	87267	1050	5	20,173	04
.....	.....	20	.....	15	.....	50	.....	.....	.....	.....	.....	.....	25	.....	570	00
.....	.....	80	.....	45	.....	100	.....	.....	.....	.....	.....	.....	50	.....	1,800	00
.....	.....	48	.....	24	.....	84	.....	.....	.....	.....	.....	3726	42	.....	5,640	00
.....	.....	240	.....	204	.....	170	.....	.....	.....	.....	.....	.....	85	.....	5,130	00
2	.....	50	.....	100	6	200	.....	.....	50	.....	.....	.....	70	40	2,297	00
10	.....	1800	.....	2000	200	5000	.....	.....	4400	.....	.....	.....	2500	275	75,074	50
.....	.....	400	.....	700	40	40	.....	.....	200	.....	6	100000	300	25	23,597	50
2	.....	250	.....	150	.....	750	.....	.....	.....	.....	.....	.....	350	25	7,559	50
.....	.....	100	.....	100	30	7000	.....	.....	50	.....	15	.....	3500	150	32,050	00
39	1000	3843	5000	9828	746	63014	195	2600	37950	1800	121	1002427	9252	565	644,101	54





## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.											FISH PRODUCTS.		VALUE.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Od, cwt.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	
6	472	390	5000	64	260	3810	500	.....	65	.....	2500	2500	\$ cts.
35	1600	.....	400	10	25	.....	.....	.....	.....	127200	100	3000	30,965 00
27	502	.....	1386	102	207	3100	.....	.....	.....	.....	375	300	28,469 00
10	208	.....	1012	51	160	1300	.....	.....	.....	80792	300	190	10,103 00
100	3300	.....	19830	195	2822	69000	.....	.....	.....	.....	6462	5634	16,104 04
138	1100	35	4575	2540	2830	.....	.....	.....	.....	18000	11595	930	124,223 80
15	200	.....	800	200	300	2000	.....	.....	30	.....	700	350	54,600 50
10	500	15	400	.....	800	.....	.....	.....	.....	.....	1500	100	7,530 00
100	1200	.....	2550	150	810	3500	.....	.....	.....	20000	2500	525	6,967 50
.....	.....	130	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,877 50
.....	136	28	250	.....	33	.....	.....	.....	13	.....	300	.....	1,310 00
.....	1110	.....	511	118	1041	.....	.....	.....	.....	.....	825	.....	2,202 00
.....	1288	25	587	100	651	.....	.....	.....	.....	.....	1093	.....	11,450 00
.....	802	35	395	.....	391	.....	.....	.....	.....	.....	350	.....	11,055 70
.....	729	30	9510	.....	350	.....	5000	.....	.....	27110	3750	.....	6,688 50
.....	70	.....	1388	.....	150	.....	.....	10000	.....	19640	250	.....	47,854 20
.....	144	.....	3660	.....	500	.....	.....	.....	.....	.....	884	.....	9,538 80
300	800	35	44800	30	800	40000	1000	.....	.....	30528	10000	.....	17,569 60
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	202,187 86
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*88,782 76
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	†32,436 00
741	14161	723	97124	3560	11930	122710	6500	10000	108	323270	43489	13529	734,915 76

\* Live lobsters shipped to the United States and sold to American smacks, 2,219,569 at 4c. each.

† Mackerel sold fresh to United States and sold to American smacks, 540,600 at 6c. per lb.

## RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.			
	Vessels.				Boats.		Nets.		Weirs.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	No.	Value.
<i>Victoria.</i>		\$				\$		\$		\$
New Campbellton					50	1000	80	1500	750	
Great Bras d'Or					28	316	60	1400	600	
Boularderie					2	30	3	240	100	
Grand Narrows					35	525	90	1000	600	
Washabuck					6	90	12	200	100	
North Gut, St. Ann's					17	350	34	1300	544	
Baddeck					2	40	2	160	100	
Englishtown	1	14	500	4	52	1040	104	3320	1305	
Black Head					10	120	20	200	468	
Bird Island					112	5600	336	18600	9300	
Barachois					10	120	20	720	300	
Indian Brook					20	240	40	1920	800	
Little River					6	54	12	720	288	
Breeding Cove					8	80	16	480	240	
French River					20	800	40	1200	600	
Wreck Cove					10	120	20	600	500	
Path End					15	225	30	1500	1125	
South Bay, Ingonish	2	24	400	8	100	700	200	9300	6600	
North Bay, Ingonish					45	900	90	2700	1350	
Ingonish Island					6	90	18	240	120	
Green Cove					20	400	40	880	600	
Neil's Harbor	1	8	250	3	30	720	60	2640	1200	
New Haven					20	720	60	880	600	
White Point					58	1160	116	2554	1160	
North Harbor					9	180	18	594	270	
Meat Cove					9	180	18	594	324	
Wreck Cove					7	140	14	352	197	
Bay St. Lawrence Pond					25	500	50	1100	600	
Totals	4	46	1150	15	740	16440	1603	56794	31244	



## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.															FISH PRODUCTS.				
Salmon, barrels.	Salmon, in cans, lbs.	Mackerel, barrels.	Herring, barrels.	Alewives, barrels	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Roes, barrels.	Fish used as bait, barrels.	VALUE.	
																		\$ cts.	
4		35	300	...	550	...		150		200					300	50	150	5,784 00	
...		50	360	...	580	...	10	85	900						200	10	175	5,232 50	
4			112	...	24	...		12							15		1	633 50	
...		90	600	12	600	...					2000	14	100		300		100	7,134 00	
...			150	...	150	...					2000	6	80		30		5	1,639 50	
17		30	650	...	200	...		35		300		12			250		50	5,757 00	
9				...	5	...									5		1	167 50	
60		100	568	...	880	...	100	100		6010					535	120	205	33,733 50	
20		85	120	...	170	...		20		40					70		14	3,044 00	
...		200	448	...	1250	...		120							685		336	11,050 00	
...		40	50	...	40	...		7							23		30	1,042 20	
...		60	120	...	120	...		6							60		60	1,998 00	
...		18	48	...	120	...				60					60		18	993 00	
...		32	64	...	192	...									96		24	1,578 40	
...		80	160	...	800	...		80							440		60	5,626 00	
...		30	100	...	150	...									75		30	1,525 00	
20		54	96	...	324	...		20							172		60	3,043 80	
30		440	880	...	5560	...		1000		300				12480	3280		510	41,614 60	
10		125	160	...	2950	...		700		135					1825		220	18,875 00	
6		18	64	...	600	...		216		18					402		30	4,163 80	
8		50	80	...	1140	4		100							700		200	6,778 00	
...		480	40	60	3000	...								4800	1250		300	14,438 00	
...					2400	...									1000		300	10,450 00	
9		225	3	...	2700	...				580					1200		348	17,653 00	
7		37	26	...	552	...								12480	250		71	4,684 60	
...		38	20	...	276	...								21984	240		50	4,563 08	
...		2400	40	...	100	...								16800	70		42	3,027 06	
...		110	24	...	950	...								12816	200		150	7,388 92	
204	2880	1987	5303	12	26383	4	110	2651	900	7583	4000	32	180	81360	13733	180	3541	223,652 90	

RETURN showing the Number, Tonnage and Value of Vessels and Boats Engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.							
	Vessels.			Boats.			Nets.		Weirs.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.				Value.
		\$				\$			\$		\$			
Yarmouth.														
Arcadia and Little River .....					120	4000	200	6000	1400				45	360
Tusket Wedge .....	11	754	21000	184	30	1600	80	16000	7000	*1	2000		185	520
Salmon River .....					65	700	85	13000	4500			2400		
Tusket .....	2	47	1500	12	180	3000	200	25000	7000			4600	60	350
East River .....					60	500	70	8000	2000			1650		
Eel Lake and Eel Brook .....	2	29	1000	16	50	500	80	1800	1300				160	550
Argyle .....	2	131	7000	26	40	800	90	4500	1500				60	240
Argyle Sound .....					50	1200	100	8000	3500				240	860
East and West Pubnico .....	27	1896	120000	528	40	2000	80	12500	5000	*1	2000		290	1915
Yarmouth .....	28	1879	69450	407	21	335	42	2500	900	10	32000	33650	3600	4220
Maitland .....	11	80	2000	50	40	600	80	4000	2000				20	1500
Sanford .....	2	28	1200	10	15	250	29	2000	1200					2400
Total .....	85	4844	223150	1233	711	15485	1136	215800	37300	11	36000	42300	4660	12915

\* Trap.

## the Fisheries, Quantity and Value of Fishing Material, &amp;c.—Nova Scotia—Con.

KINDS OF FISH.											FISH PRODUCTS.				VALU.	
Herring, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollock, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	\$ cts.
..... 12	180	2	20	100	5500	.....	.....	.....	900	9	92260	50	.....	.....	1600	15,974 20
..... 40	12588	22	477	856	11828	.....	.....	.....	.....	.....	.....	5240	.....	.....	.....	64,217 80
..... 1230	.....	.....	.....	.....	.....	.....	.....	300	12000	11	.....	.....	.....	.....	.....	6,875 00
..... 1275	480	4	60	85	.....	.....	4	1200	20000	50	.....	200	.....	.....	.....	13,437 50
..... 380	.....	.....	.....	.....	.....	.....	.....	400	.....	.....	.....	.....	.....	.....	.....	2,080 00
..... 360	550	4	50	80	.....	.....	.....	.....	8000	340	.....	160	.....	.....	.....	12,924 00
..... 230	2840	4	20	20	.....	.....	.....	.....	.....	20	46272	870	.....	.....	1200	21,155 64
..... 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,107 50
..... 30	29685	54	775	3870	18000	.....	.....	.....	.....	20	36000	11790	.....	.....	1000	161,541 00
..... 675	158	36000	26	4445	4200	25200	.....	1000	.....	70	62400	8810	500	450	.....	284,836 75
.....	.....	1200	5	1700	500	7000	.....	.....	.....	.....	.....	300	40	.....	.....	21,770 00
.....	.....	603	.....	1000	8000	18000	.....	.....	.....	.....	.....	50	.....	.....	.....	49,832 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	† 98,436 00
675	3730	84126	121	8547	17711	85528	4	2900	40900	520	236932	27470	540	450	3800	760,187 39

† Live Lobsters shipped to United States 2,403,600 lbs., at 4c... \$96,344  
 Boneless cod, 3,000 lbs., at 4c... 120  
 Finnan Haddie, 9,000 lbs., at 4c... 360  
 Salmon, sold fresh in County, 4,000 lbs., at 20c... 800  
 Whitefish, 200 lbs., at 6c... 12  
 Smoked Alewives, 100,000, at 80c. per 100... 800

\$98,436



# RECAPITULATION of the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, in Nova Scotia, for the Year 1888.

Districts.	VESSELS AND BOATS EMPLOYED IN FISHING.					FISHING MATERIAL.					KINDS OF FISH.								
	Vessels.			Boats.		Men.	Nets.		Weirs.	Value.	Salmon, brls. in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, in cans.	Mackerel, brls.	Herring, brls.	Herring, smoked, in boxes.	Alewives, brls.	
	No.	Tonnage.	Value.	Men.	Fathoms.		Value.	No.											
Annapolis .....	8	160	4920	36	3079	371	12832	6171	21	2490	7428	.....	.....	.....	8	1470	4461	10200	12
Antigonish .....	.....	.....	.....	246	5600	504	120600	48800	.....	.....	64000	.....	.....	.....	.....	1470	1000	.....	438
Cape Breton.....	20	363	5300	121	24930	1504	114660	24934	.....	.....	9330	100	11700	.....	2157	10992	.....	134	
Cornwall .....	.....	.....	.....	57	1331	105	10580	2264	15	3850	7925	.....	.....	.....	5	60	1575	.....	.....
Cumberland.....	2	47	1500	6	2170	186	3796	2652	6	350	7425	.....	.....	.....	5	1020	.....	.....	922
Digby .....	61	1404	45600	481	14455	922	50840	31435	19	2040	3100	.....	.....	.....	8	5368	2000	.....	.....
Guy'sboro' .....	27	1110	39100	209	36563	2414	90012	111850	64	16100	32150	3460	4122	.....	3871	4752	10315	944	.....
Halifax .....	106	2582	81280	677	73474	2689	965174	95624	520	106200	52491	3706	.....	.....	8567	9936	33048	684	.....
Hants .....	.....	.....	.....	143	1505	161	7570	2630	11	1100	7020	.....	.....	.....	.....	150	.....	1040	.....
Inverness .....	16	666	19750	132	22605	2171	10211	45985	.....	320	49900	.....	14508	400	3262	400	11959	860	.....
King's .....	10	136	2800	29	1670	159	28933	7655	39	10000	43925	.....	.....	.....	10	4694	18550	300	.....
Lunenburg .....	193	10001	569700	1967	34366	2878	516360	95080	4	3000	20880	1955	.....	.....	13592	46264	.....	503	.....
Pictou .....	2	60	3000	6	201	3620	14025	11000	.....	.....	91400	.....	.....	.....	380	1244	.....	60	.....
Queen's .....	26	1498	74773	291	414	7291	28104	11063	.....	.....	31210	955	.....	.....	345	2503	.....	3143	.....
Richmond .....	70	2312	48320	615	1097	18260	414526	85680	.....	.....	39	1000	.....	.....	3843	5000	8628	746	.....
St. Helburne.....	60	3595	173025	826	1088	26865	1185	243360	23985	10	5730	.....	.....	.....	741	14161	.....	723	.....
Victoria .....	4	46	1150	15	740	16440	56794	31241	.....	204	.....	.....	2880	.....	1987	5303	.....	12	.....
Yarmouth .....	85	4844	223150	1233	711	15485	215800	37300	12	36000	42300	.....	.....	.....	4660	12915	675	3730	.....
Totals. ....	690	29125	1293368	6644	309707	21463	3811290	678352	721	197730	4236477214	10176	33210	45009	175285	33000	.....	14841	.....

DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.						VALUE.		
	Cod, cwt.	Cod Tongues and Sounds, brls.	Pollock, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Bass, lbs.	Trout, lbs.	Squid, brls.	Smelt, lbs.	Reis, brls.	Oysters, brls.	Lobsters, cans.	Fish Oil, galls.	Hake Sounds, lbs.		Fish Guano, tons.	Fish used as bait, brls.
Annapolis .....	3677	27	1027	3222	3516	26150	....	1850	6400	....	....	25	....	375730	4436	3568	....	2610	2119
Antigonish .....	925	....	....	3765	730	7420	....	18000	7420	....	38000	500	277	130000	2210	5290	....	2460	....
Cape Breton .....	27405	2	167	3001	80050	11850	16	400	235	235	32600	286	22	315474	13242	....	73	3286	....
Colchester .....	140	....	....	....	....	2250	171	400	2250	....	31000	....	....	5	85	....	....	40	....
Cumberland .....	395	....	270	....	445	2500	106	300	2500	....	140254	20	65	252400	50	....	....	550	....
Digby .....	83265	90	46185	40240	61450	239870	30	1000	1000	....	2000	55	....	27900	115635	28140	....	19860	8485
Guy'sboro' .....	26542	70	25	7016	32508	2	100	44700	1626	1626	29300	313	....	1007607	13001	11543	....	10867	....
Halifax .....	53858	471	7	11320	469	205829	....	5870	5870	....	59919	208	....	963408	61963	11543	....	5613	....
Hants .....	1119	....	....	....	....	200	170	3040	51230	1665	46000	775	1040	173723	19390	9350	....	2010	....
Laverness .....	34190	20	1251	....	3880	8700	....	....	34500	....	7000	18	....	745	....	....	....	708	....
King's .....	1315	....	529	....	736	900	266	....	8477	862	11265	34	....	194700	170642	8217	280	4258	2937
Lunenburg .....	219411	255	20321	15932	54445	175695	....	....	200	....	21600	779	....	536920	635	1992	....	1200	3600
Pictou .....	803	....	700	....	....	....	....	....	6775	297	2380	78	....	135040	12459	....	....	887	3108
Queen's .....	29767	124	10	2520	347	10150	....	....	....	....	1800	121	....	1002427	9252	....	....	565	....
Richmond .....	63014	195	2600	....	37950	....	....	....	6500	....	10000	108	....	333270	43489	....	....	13529	....
Shelburne .....	97124	....	3560	....	11930	122710	....	....	....	7683	4000	32	180	81360	13733	180	540	3541	....
Victoria .....	26383	4	110	....	2651	900	....	....	2900	....	40900	520	....	236932	27470	....	....	450	3800
Yarmouth .....	84126	121	8547	....	17711	85538	4	....	....	....	....	....	....	....	....	....	....	....	....
Totals .....	753459	1379	84609	77699	210505	991690	765	23690	161522	12268	491138	4379	1589	5756891	511357	68580	893	72434	26509
Digby .....	Live Lobsters shipped to United States; Fresh Haddock and Finnen Haddies, as per County Return .....															* 53,950 00			
Guy'sboro' .....	Smoked Herring, in Cans, per County Return .....															312 00			
Halifax .....	Amount sold at Halifax Fish Market, as per County Return .....															45,500 00			
King's .....	Live Lobsters shipped to United States, per County Return .....															600 00			
Lunenburg .....	Scallops, as per County Return .....															400 00			
Queen's .....	Clams, Fresh Cod, offal of Lobsters and Live Lobsters shipped to the United States, per County Return .....															10,038 00			
Shelburne .....	Live Lobsters shipped to United States, and Mackerel, sold fresh, per County Return .....															121,218 76			
Yarmouth .....	Miscellaneous fish not included above, as per County Return .....															98,436 00			
Total Value .....																	7,817,030 42		

\* These amounts include the various sums opposite the respective counties at the foot of this page.

# RECAPITULATION OF THE YIELD OF FISHERIES IN NOVA SCOTIA, 1888.

Kinds of Products.	Quantities.	Rate.	Value.		T t l.
			\$	cts.	
Salmon, pickled	3,236 brls.	18 00	51,776 00		
do fresh	477,214 lbs.	0 20	95,442 80		
do smoked	10,176 do	0 20	2,035 20		
do preserved in cans	33,210 cans.	0 15	4,981 50		154,235 50
Mackerel, pickled	45,009 brls.	15 00	675,135 00		
do preserved in cans	20,688 cans.	0 12	2,482 56		
do shipped fresh	540,600 lbs.	0 06	32,436 00		
Herring, pickled	175,285 brls.	4 00	701,140 00		
do smoked	33,000 boxes.	0 25	8,250 00		
do do cans	3,120 cans.	0 10	312 00		710,053 56
Alewives, pickled	14,841 brls.	4 50	66,784 50		
do smoked	100,000 fish.	80c. per 100.	800 00		709,702 00
Cod, dried	753,459 cwt.	4 00	3,013,836 00		
do boneless	3,000 lbs.	0 04	120 00		
do tongues and sounds	1,379 brls.	10 00	13,790 00		
do fresh	50,000 lbs.	0 04	2,000 00		
Pollock, dried	84,609 cwt.	4 00	310,796 00		
Hake, dried	77,899 do	4 00	310,796 00		
do sounds	68,580 lbs.	1 00	68,580 00		3,029,746 00
Haddock, dried	210,505 cwt.	4 00	842,020 00		
do fresh	600,000 lbs.	0 04	24,000 00		
Finnan haddies	49,000 do	0 04	1,960 00		379,376 00
Halibut	991,680 lbs.	0 10	99,168 00		
Shad	765 brls.	10 00	7,650 00		
Bas	23,690 lbs.	0 06	1,421 40		
Trout	161,522 do	0 10	16,152 20		
Squid	12,268 brls.	4 00	49,072 00		
Smelt	491,138 lbs.	0 06	29,468 28		
Eels	43,790 brls.	10 00	43,790 00		
Oysters	1,589 do	3 90	6,204 10		4,767 00



Lobsters, preserved.....	5,756,891 cans.	0 12	690,826 92
do shipped fresh.....	810 tons.	35 00	28,350 00
do alive.....	4,707,869 fish.	0 04	188,314 78
do offal.....	2,500 brls.	0 50	1,250 00
Fish oil.....	511,357 galls.	0 40	908,741 68
do guano.....	893 tons.	25 00	204,542 80
do used as bait.....	72,434 brls.	1 50	22,325 00
do do manure.....	26,509 do	0 50	108,651 00
Amount sold in Halifax fish markets.....			13,254 50
Miscellaneous fish not included in above. See County Returns.....			45,500 00
			5,412 00
Total, 1888.....			7,817,030 42
do 1887.....			8,379,782 68
Decrease.....			562,752 26

TABLE showing the number and value of Vessels and Boats, Nets and Weirs engaged in the Fisheries of Nova Scotia, and approximate estimates of the value of other material not included in the returns.

Articles.	\$	\$
690 vessels.....	1,293,368	
13,415 boats.....	309,707	
3,811,299 square fathoms of nets.....	678,352	
721 weirs.....	197,730	
	2,479,157	
Canning establishments.....	198,422	
Guano do.....	8,500	
Seines not included in return.....	48,279	
Lobster traps and nets, &c.....	181,865	
Hand lines, trawls, &c.....	108,605	
Steamers, snacks, punts and canoes.....	42,322	
Piers, buildings, wharves, smoke houses, &c.....	158,995	
Dories seine boats and shore vessels.....	25,600	
	750,688	
	3,229,845	

COMPARATIVE STATEMENT of the Increase and Decrease of the Several Productions  
of the Fisheries of **Nova Scotia**, for the Years 1887 and 1888.

Articles.	Increase.	Decrease.
Salmon, pickled.....brls.		426
do fresh, in ice.....lbs.		18,136
do smoked.....lbs.		3,661
do preserved.....cans.		1,556
Mackerel, pickled.....brls.		46,339
do preserved.....cans.		37,480
do shipped fresh.....lbs.	183,000	
Herring, pickled.....brls.		5,861
do smoked.....boxes.		52,910
Alewives, pickled.....brls.		1,449
do smoked.....doz.		20,000
Cod, dried.....cwt.		40,850
do boneless.....lbs.		47,000
do tongues and sounds.....brls.		19
Pollock and hake, dried.....cwt.	69,795	
Hake sounds.....lbs.	24,954	
Haddock, dried.....cwt.	12,478	
do fresh.....lbs.	502,000	
Finnan Haddies.....lbs.		78,000
Halibut.....lbs.		192,598
Shad.....brls.		535
Bass.....lbs.	8,625	
Trout.....lbs.	6,053	
Squid.....brls.		18,052
Smelt.....lbs.	27,466	
Bels.....brls.	639	
Oysters.....brls.		127
Loobsters.....cans.		932,032
do shipped fresh.....tons.		713
do do alive.....number.		517,662
Fish Oil.....galls.	27,991	
do Guano.....tons.	314	
do used as bait.....brls.	7,420	
do do manure.....brls.		2,061

TABLE showing the Value of the Fisheries of Nova Scotia, for the Nineteen Years from 1870 to 1888, inclusive.

Year.	Value.
	\$ cts.
1870.....	4,019,424 07
1871.....	5,161,030 90
1872.....	6,016,835 00
1873.....	6,577,086 51
1874.....	6,652,301 55
1875.....	5,573,851 53
1876.....	6,029,049 91
1877.....	5,527,858 37
1878.....	6,131,599 64
1879.....	5,752,936 20
1880.....	6,291,061 46
1881.....	6,214,781 50
1882.....	7,131,418 36
1883.....	7,689,374 75
1884.....	8,763,779 36
1885.....	8,283,922 87
1886.....	8,415,361 45
1887.....	8,379,782 68
1888.....	7,817,030 42

COMPARATIVE STATEMENT of Value of Fisheries in each County in the Province of Nova Scotia, for the Years 1887 and 1888.

Counties.	1887.	1888.	Decrease.	Increase.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Annapolis.....	101,556 55	127,082 10	.....	25,525 55
*Antigonish.....	101,998 50	97,898 00	4,100 50	.....
*Cape Breton.....	280,237 78	271,538 68	8,699 10	.....
Colchester.....	9,072 10	6,781 75	2,290 35	.....
Cumberland.....	73,447 92	55,750 24	17,697 68	.....
Digby.....	1,086,331 20	1,139,253 50	.....	52,922 30
Guyeboro'.....	657,166 08	428,198 08	228,968 00	.....
Halifax.....	1,015,027 68	817,808 42	197,219 26	.....
Hants.....	11,818 10	15,080 40	.....	3,262 30
*Inverness.....	485,937 98	342,694 96	143,243 02	.....
King's.....	40,826 75	50,728 50	.....	9,901 75
Lunenburg.....	1,763,901 50	1,779,821 90	.....	15,920 40
Pictou.....	133,408 90	114,607 40	18,801 50	.....
Queen's.....	210,231 58	206,938 90	3,302 68	.....
*Richmond.....	548,270 30	644,101 54	.....	95,831 24
Shelburne.....	750,193 78	734,915 76	15,278 02	.....
*Victoria.....	239,841 98	223,652 90	16,189 08	.....
Yarmouth.....	870,514 00	760,187 39	110,326 61	.....
Totals.....	8,379,782 68	7,817,030 42	766,115 80	203,363 54
Decrease.....	.....	.....	562,752 26	.....

\* NOTE.—The four Counties of Cape Breton Island give a total value of fish caught of \$1,481,938 08 against \$1,554,288 04 in 1887, a decrease of \$72,349 93.

The value of fish caught in the other fourteen counties of Nova Scotia proper is given at \$6,335,042.34 against \$6,825,491.64, a decrease of \$490,452.30.



# RECAPITULATION of the Yield and Value of the Fisheries for the Island of **Cape Breton**, for the Year 1888.

Kinds of Products.	Quantities.	Rate.	Value.
		\$ cts.	\$ cts.
Salmon, pickled.....	brls. 618	16 00	9,888 00
do fresh, in ice.....	lbs. 60,230	20	12,046 00
do smoked.....	lbs. 100	20	20 00
do in cans.....	cans. 29,088	15	4,363 20
Mackerel, pickled.....	brls. 11,249	15 00	168,735 00
do in cans.....	cans. 5,400	12	648 00
Herring, pickled.....	brls. 38,082	4 00	152,328 00
Alewives do.....	brls. 2,352	4 50	10,584 00
Cod, dried.....	cwt. 150,992	4 00	603,968 00
do Tongues and Sounds.....	brls. 221	10 00	2,210 00
Hake and Pollock.....	cwt. 4,128	4 00	16,512 00
do Sounds.....	lbs. 9,530	1 00	9,530 00
Haddock.....	cwt. 47,482	4 00	189,928 00
Halibut.....	lbs. 89,650	10	8,965 00
Shad.....	brls. 16	10 00	160 00
Trout.....	lbs. 63,080	10	6,308 00
Squid.....	brls. 9,483	4 00	37,932 00
Smelts.....	lbs. 84,400	06	5,064 00
Eels.....	brls. 1,214	10 00	12,140 00
Oysters.....	brls. 1,242	3 00	3,726 00
Lobsters, preserved in cans.....	cans. 1,572,984	12	188,758 08
Fish Oil.....	galls. 55,617	40	22,246 80
Fish Guano.....	tons. 73	25 00	1,825 00
Fish used as bait.....	brls. 9,402	1 50	14,103 00
Total.....			1,481,988 08

TABLE showing the Number and Value of Vessels and Boats, Nets and Seines, &c., engaged in the Fisheries of the Island of **Cape Breton**, and the Approximate Estimates of the Value of other Material not included in the Returns.

Material.	Value.	Total.
	\$ cts.	\$ cts.
108 vessels.....	74,250 00	
3,425 boats.....	82,235 00	
693,191 fathoms of nets.....	187,843 00	344,328 00
Canning establishments.....	56,422 00	
Seines (not included in returns).....	5,400 00	
Lobster traps.....	27,500 00	
Hand lines, trawls, &c.....	28,470 00	
Steamers, smacks, punts, canoes, &c.....	11,981 00	
Fishing piers, houses, and other sundries.....	52,000 00	181,773 00
Total.....		526,101 00

## APPENDIX No. 3.

## NEW BRUNSWICK.

ANNUAL REPORT ON THE FISHERIES OF NEW BRUNSWICK FOR THE  
YEAR 1888, BY MR. W. H. VENNING, INSPECTOR.

SAINT JOHN, 31st December, 1888.

HON. CHARLES H. TUPPER,  
Minister of Marine and Fisheries,  
Ottawa.

SIR,—I have the honor to submit a report on the Fisheries of New Brunswick for the year 1888, with condensed reports from the local officers. The returns show a decrease in the aggregate catch of more than half a million dollars from the catch of last year, which was half a million less than that of 1886. The causes of this steady decrease I have pointed out for the last fifteen years—they are over-fishing and insufficient protection. If these causes are allowed to exist, no other result is possible but a continued and accelerated decline in this great industry. You will be told by some ingenious theorists that fish are so prolific they cannot be exterminated; that the ocean is vast and man cannot exhaust it; that some occult causes we do not understand govern the supply; that the movements of fish are erratic, pelagic, and unaccountable; that seasons of plenty are followed by others of scarcity; that after years of absence from our waters they will return in greatly increased numbers, and many specious, but utterly baseless theories. In the face of platitudes like these, I put the facts I have faithfully recorded for the last twenty years, and these show that all our fisheries are growing worse instead of better; that the supply is steadily diminishing, never increasing. With these facts in view, facts which the fish themselves corroborate, I am compelled to look with distrust on all fanciful theories and ingenious manipulation of assumed figures which are put forward to explain them, and I rest firm in the belief that science teaches—if a cause is removed, the effect will disappear. In this belief I respectfully appeal to the facts recorded in all my past reports, and submit those contained in the present.

## SALMON.

The returns show a falling off from the catch of last year of 131,157 pounds, and a steady decrease since 1874, the year that artificial hatching was adopted, in the hope of keeping up the supply of this fish. In that year by the natural mode of increase, without any artificial aid, the fishery yielded 3,214,182 pounds. This year, with greatly improved appliances, more nets and more men fishing, the catch is 1,224,340 pounds—a decrease of nearly 2,000,000 pounds, after fourteen years artificial hatching, to help the fish keep up the struggle against excessive fishing.

## BASS.

There is a small increase in the catch of this fish which comes entirely from the County of King's. In all the northern counties, where this fish was formerly abundant, Gloucester, Northumberland and Kent, the steady decrease continues, caused by past over fishing and the great destruction of young bass in smelt nets.

This falling off in the catch in these counties has been steady and continuous ever since bag-nets were first used for catching smelts. Northumberland shows this decrease in a very marked manner, because the greatest destruction of young bass was done in the Miramichi River, between Middle Island and Newcastle. In the year 1876, when bag-nets were first used in that county, the catch of bass was 217,179 pounds. This year the catch was little more than one-tenth, being only 23,077 pounds. I see no hope of any improvement in this fishery in these counties as long as bag-nets are allowed where young bass congregate in the fall. On the contrary, nothing can be more certain than the speedy extinction of the fishery. In the St. John River counties, where bag-nets are unknown, and where the fish are fairly protected, they are increasing.

#### SHAD.

The slight increase of 1,000 barrels that marked the catch of last year, has this year given place to a decrease of 3,681 barrels, and yet the season was not unfavorable for fishing, and the demand, at enhanced prices, was beyond the supply. The cause is very plain, and has been pointed out constantly in all my annual and special reports for the last ten years, over-fishing and the want of a weekly close time sufficient to enable fish to reach their spawning places and perform their procreative functions. As long as these causes continue the catch will grow less, and if they are not soon removed, this fishery also will cease to be a profitable occupation. As this year was marked by an unusual run of shad in American rivers, it devolves on those theorists who assert that the Bay of Fundy shad come from American rivers to feed, after having spawned there, to explain how it is when shad are plentiful in American waters we see no increase in our waters. The plain and simple fact is that over-fishing has exhausted the stock once so plentiful in our waters, and no improvement can be looked for by sensible men until the fish are protected and the parents allowed to spawn. Fishermen at the head of the bay are asking for some measures, but to apply these there and exempt the Harbor and River of St. John, will do no practical good, for all caught in the spring in estuary, harbor and river are gravid fish, while those caught at the head of the bay are fish that have already spawned and left the river to feed and recuperate.

#### ALEWIVES.

This fish shows a decrease of nearly 3,000 barrels from the small catch of last year. As compared with 1885 the falling off is over 8,000 barrels. The bulk of the whole is made in the estuary and harbor of St. John when the gravid fish are ascending the river to spawn, and as there is practically no close time except from daylight to dark on Sunday, there can be no improvement looked for while the over-fishing continues. The close time should be from Friday night to Monday morning, and the destruction of young fish by the harbor weirs, under control of the corporation of the city, should be prevented, by making them cease fishing when the spent fish and young fry are coming down the river.

#### SMELTS.

When, in 1876, this fishery commenced on a large scale with bag nets, I foresaw, that, as in the New England States, the supply could not stand the enormous annual drafts made on it, and that like causes would under the same circumstances, produce like effects, at that time bag-nets had exhausted the smelts from New York to Eastport, and their further use was prohibited. On the 6th January, 1877, I made a comprehensive report to the then Minister, setting forth the facts, illustrated by specimens of the catch then being made in the counties of Gloucester and Northumberland. This was printed as an appendix to my annual report for 1876, and will be found in the blue-book for that year, Appendix No. 14, page 269, to which I respectfully call attention in order that you may see the facts as they existed at the commencement of this fishery, which all subsequent experience has confirmed.



In every report made since I have not failed to call attention to the inevitable effect of these bag-nets, unless restrained by judicious regulations. This fishery has gone on without attention having been given to my repeated warnings, until the catch has fallen from 6,484,145 pounds in 1886 to 3,149,463 pounds in 1888, a decrease of nearly one-half in three years, with more nets and more men employed in the business; and yet you have been told by dealers and shippers, and you will be told the same again, that smelts are now more plentiful than ever they were, and that the average size of the catch has increased. These things have recently been said in the face of facts which prove "the exact opposite," and efforts are now being made to relax the insufficient protection which the present regulations give to this valuable fishery. In all the years that have passed since 1877, the markets have been glutted, and fish which then brought fishermen 5 cents to 6 cents per lb., and shippers 12 cents to 15 cents per lb., in American markets, are now being sold by fishermen for an average price of 2 cents to 3 cents, and bringing shippers less than an average of 4 cents per lb., while every year large quantities have been lost in New Brunswick and "dumped" in New York from the effects of soft weather. The indications now are that the greatly reduced catch of last year will be still further reduced this year, for, while the weather has been *favorable everywhere*, fish have been very scarce compared with former years. This fishery is, since the collapse of the lobster fishery, the largest and most important now carried on in the northern counties; indeed, since the collapse of the mackerel fishery, it is the largest in the whole Bay Chaleur and Straits of Northumberland. How much longer it will continue to be a profitable industry depends entirely upon the measures now adopted to prevent its exhaustion.

#### FROST-FISH AND FLOUNDERS.

While the demand for these fishes continues to increase at higher prices, the supply, like that of smelts, is growing smaller. In 1886 the catch of frost-fish was 713,875 pounds; this year it is 174,895 pounds. The catch of flounders in 1887 was 122,470 pounds; in 1888 it fell to 83,650 pounds, and yet the demand for both was greater at higher prices. No more convincing proof can be offered, were such necessary, of the destruction caused by bag-nets, than their effects on these fishes. In 1876 both were very plentiful. The complaint of fishermen was that they obstructed the catch of smelts. At that time vast quantities were wasted because no market had been found for their disposal. Now that ample markets and remunerative prices are offered the supply is quite inadequate to the demand. This has been the history of all our fisheries, and coming generations will lament the stupid and wasteful ways of their progenitors.

#### TROUT.

It is quite impossible to get even an approximation to the quantity of trout taken in the province. Only the quantity exported and that which comes to our local markets can be ascertained. But these form a very small part of the catch by anglers and potfishers who frequent all our lakes and streams from spring to fall. The quantity exported falls short of last year's figures by 18,000 pounds. The close season should extend to 1st May, in order that fishing through the ice may be prevented.

#### HERRING.

Herring have been very plentiful all through the season, though the catch has not exceeded that of last year. The demand for sardines has been dull, and but 15,963 hhds. were sold against 53,094 hhds. last year. The quantity pickled was large, while that smoked was about the same. The quantity frozen was larger than that taken last year, while the price was higher. St. Andrew's Bay was full of herring all summer, but the limited demand for sardines was a great disappointment to fishermen. Every year's experience shows the wisdom of strictly preventing "torching." While this mode of fishing was allowed, herring were always

scarce the following summer. Since the practice has been prohibited, they were never more plentiful in the waters of Charlotte County.

#### MACKEREL.

The failure recorded last year in this fishery has again occurred, and this year is more complete. In 1880 the catch was 19,650 barrels and 66,427 cans. In 1886 the catch was 17,868 barrels and 70,128 cans; in 1887 only 3,607 barrels and 44,278 cans were caught. After making all allowance for the alleged erratic and uncertain movements of mackerel, their pelagic wanderings and changing *habitat*, so great a decrease in a few years would indicate some general and hitherto unknown cause. In my opinion, based on many years' observation, extensive reading and converse with old and experienced mackerel fishers, these causes are: *first*, the great destruction, by purse seines, of gravid parents and half-grown young fish; *second*, the failing supply of food in Bay Chaleur and the Straits consequent on the great destruction of smelts, frost fish and flounders in all the counties bordering these waters where alone this fish is pursued by our fishermen. The myriads of young fry which formerly crowded all our estuaries, and afforded the kind of food that the mackerel seeks inshore, are no longer there. The waters are depleted of this food; consequently the schools are no longer attracted to the inshores. We see the same result in American waters where purse seines have destroyed the gravid parents and immature young fish and the porgies on which they feed. The scarcity of mackerel in American waters, coupled with the continued demand for them, has led to the importation of large quantities from England, whence the future supply will probably come. While purse seines and bag-nets are allowed without restriction, I can see no reasonable hope of any improvement in the mackerel fishery. My present conviction is that there should be a close time to cover the spawning season, and that purse seines should be prohibited in Canadian waters. I have seen our salmon, shad, bass, alewives, oysters and lobsters all dwindling away for want of protective laws, and now the most valuable fish of all is being exterminated by the unrestricted use of destructive implements and the wanton waste of spawning fish.

#### COD.

A serious decline in the catch of this fish appears from the returns. Last year 93,542 cwt. were caught. This year the quantity has fallen to 86,695 cwt. By much the largest quantity is caught in the northern counties, and it is altogether probable that a failing supply of food is closely connected with the decrease. The vast drain made on smelts, frost-fish and flounders for the last five years has no doubt made food scarcer in-shore, and the fish have not come in as formerly. In the southern counties, where the abundance of young herring affords ample supplies of food, the catch has not declined. A scarcity of codfish in northern waters would be deplorable, for the closing of the lobster canneries will leave only the cod fishery as a source of employment for large numbers who have heretofore been engaged in the lobster fishery.

#### HALIBUT.

The returns show a catch of only 17,970 pounds against 50,234 pounds last year. But fishermen say the catch exceeded that of last year if correct figures could be had. Almost the whole catch, with the exception of the small part used in home consumption, goes direct from the fishing grounds to the United States' markets, and there are no means within my reach by which I can get even an approximation to the real quantity caught by our fishermen.

#### POLLOCK, HAKE AND HADDOCK.

The catch of all these fishes exceeds that of last year. These fisheries are confined almost wholly to Charlotte County, and have not been pursued with much energy since the sardine fishery has given fishermen more profitable employment at home.



## LOBSTERS.

This fishery has almost ceased to be a remunerative industry in New Brunswick. As I have pointed out for the last ten years in every report, this result was inevitable from the wasteful manner in which the business was pursued. When the average size of the fish had become so small that it took from five to six and a half lobsters to fill a pound can, and when canners sought by increased production to make up for low prices in overstocked markets, what other result could be expected? The following figures will show how rapid the decline has been in the last five years:

The catch was:—

	Cans.	Tons.
In 1885.....	5,236,253	3,111
1886.....	4,661,812	4,290
1887.....	2,630,559	3,650
1888.....	1,843,368	1,948

In 1886 there were 168 factories in operation; in 1887 there were 123, and this year only 75 have operated, many of these not running full time for want of fish. The report of the Commissioners appointed to enquire into the decline and its causes, showed beyond doubt that overfishing was the cause of all the trouble, and that sufficient protection had not been provided by the regulations. At that time fishing was allowed only from 1st April to 1st August, and all the facts collected showed that this did not save the fish from growing smaller and scarcer.

## OYSTERS.

The catch of oysters is less than that of last year by 6,812 barrels. Nearly the whole catch of 16,384 barrels came from the beds of Gloucester and Northumberland. Those of Kent and Westmoreland, which formerly were said to be inexhaustible, are now nearly extinct. Kent County produced this year from all her beds in St. Louis, Richibucto, Buctouche and Cocagne, but 2,000 barrels, while all the beds in Westmoreland have yielded only 106 barrels. As most of the oyster fishermen now concentrate their operations on the Gloucester and Northumberland beds, these are being exhausted faster than ever. How much longer these will pay for raking remains to be seen; but unless some comprehensive measure of protection is applied, the time must be very short. For twenty-one years I have been urging protection for our oyster beds; but their destruction has gone steadily on; year after year has passed without a single step being taken to prevent indiscriminate raking and wanton waste.

## CONDENSED REPORTS FROM LOCAL OFFICERS.

## RESTIGOUCHE COUNTY.

*Overseer Verge*, of the River division, reports "a shortage of 19,614 pounds of salmon as compared with the catch last year. This he attributes to the lateness of the season before nets were set, and to the early date at which they were removed. The run of logs in the Restigouche Boom, at the head of tide, prevented several nets from being set before the first run of fish had passed. On the Quebec side the decrease was only 5,133 pounds." This constant decline in the catch of salmon on the Restigouche is very significant, and deserves grave consideration. On this river the first hatching house in New Brunswick was built in 1874, and every year since from half-a-million to a million and a-half of young salmon have been planted in this river, with the following result: In 1874, the fish, without any assistance, had provided a stock from which the fishermen took 678,500 pounds. After fourteen years'



assistance from the hatching house, more nets and more men have this year taken but 171,116 pounds.

*Overseer McPherson*, of the Coast division, reports as follows:—"The catch of salmon, which is the main branch of fishing in my district, has been very far below the average—being only about three-fifths of the usual catch. All the stands have been licensed, and the usual number of nets have been fished with a full complement of men. This failure may be partly explained by the prevalence of unfavorable winds, which drove ashore a number of nets and no doubt caused the fish to keep off shore in their course to the spawning grounds." This may explain the reduced catch in Mr. McPherson's district on the coast; but this cause should have increased the catch in the estuary and in the river; for if the fish came at all they must have traversed both these waters, no matter how they approached them. The quantity of lobsters taken is again less than last year's catch, which he thinks was caused by the shorter time during which the traps were fished. It is worthy of note that neither fishermen, dealers, nor even the officers ever account for a poor catch by the failing supply. Any other cause than this is always assigned for the decreased supply, for none will admit the possibility of exhausting the fishery, no matter how clearly the facts show that this is being done very rapidly.

#### GLOUCESTER COUNTY.

*Overseer Hickson* reports as follows:—"The catch of salmon was fair; in the upper district rather better than last year, and on the whole fishermen are satisfied with the season's work. The lobster fishery continues to get worse. Fish are getting smaller and scarcer all the time, but the shortened season, no doubt, reduced the catch in this district. Mackerel have almost deserted our bay, formerly the great rendezvous for the spawning fish. Very few were taken. One trap took about enough to pay expenses. A schooner fitted out in Bathurst for deep sea fishing got only twenty barrels the whole season, and lost her owners \$2,500. Herring has not given an average catch, and those engaged in cod fishing have suffered loss from continued wet weather during the latter part of the summer, which made it very difficult, in some cases impossible, to dry their fish, much of which was consequently spoilt." Mr. Hickson says he has great difficulty in enforcing the Smelt Regulations, as fishermen and dealers evade the law in every possible way.

*Overseer Haché*, of Upper Caraquet, reports a fair catch of lobsters, for the single factory that operated in his district, but a very large decrease in the quantity of oysters raked. He also complains of the difficulty he has in enforcing the Smelt Regulations or preventing illegal fish from being exported by railway.

*Overseer Cormier*, of Lower Caraquet, reports a reduced catch of herring, mackerel and lobsters; owing to the scarcity of these fish. The catch of cod was good; but continued wet weather in summer and fall was very unfavorable for curing, and some loss was experienced from this cause.

*Overseer Aché*, of Shippegan, reports a fair catch of salmon; but a total failure in mackerel, which did not come in shore all summer. In spring herring were plentiful, but in fall scarce, and only a small catch sufficient for home use was made. Cod were abundant; but unfavorable weather made the catch shorter than last year. Prices, however, were better and fishermen did a fair season's work. The catch of smelt was less than last year, while that of lobsters was better.

*Overseer Boyd*, of Miscou, reports that smelt fishing has greatly increased since the Caraquet Railway has been extended to Shippegan. Mackerel fishing was very poor, and the catch of cod and herring was much less than that of last year. Out of eleven lobster factories in operation last season, only six were opened this year, and consequently these found less difficulty in getting fish to keep running on full time, and more cans were put up in less time than in former years.

I have no detailed reports from *Overseer W. C. Robichaud*, of Pokemouche, nor from *Olivier Robichaud*, of Tracadie, both being new officers, but from their letters I learn that in both districts a fair average catch of fish has been made. Since the smelt business opened this season, great irregularities in both places have prevailed,

which required both vigilance and determination to suppress. The greatest encouragement to this illegal work is furnished by the facility with which the proceeds of illegal fishing can be sent to market by railways.

#### NORTHUMBERLAND COUNTY.

*Overseer Stymiest*, of Tabusintac district, reports a decrease in the catch of salmon and smelts. But one lobster factory was in operation, and the catch was very small. Bass grow scarcer every year, the few nets set this season did not catch enough fish to pay for the labor of attending them. The number caught by the Indians with hook and line grows smaller every year.

*Overseer Robichaud*, of Neguac and Portage Island district, reports a fair catch of salmon, which he says would have been better, but for the serious damage done to nets by heavy gales during the fishing season. Herring were plentiful in the bay, but the catch made was only for home consumption. Boisterous and wet weather interfered with cod fishing, and the catch was less than last year. Lobster fishing commenced fairly, and the fish seemed plentiful, but after three or four weeks' fishing, they became so scarce that the factories closed. Mackerel fishing was a total failure; not a single school entered the estuary. Bass fishing has ceased to be a profitable industry in this part of the river. Smelts were not so plentiful as last year, and as fewer nets were fished the catch was not so large.

*Overseer Noble*, of Escuminac district, reports a fair catch of salmon, for which higher prices than ever before were paid. Mackerel fishing here, as elsewhere, was a total failure; not a school entered the inner bay. Bass fishing is now pursued only by Indians with hook and line, and their catch grows smaller every year. While the catch of smelts was smaller than last year, prices were higher, and fishermen got better returns. Excessive oyster raking continues during the whole open season, summer and winter, which will in a few years exhaust the beds.

*Overseer Williston*, of Bay du Vin, reports a small increase in the salmon catch of his district, but a total failure in bass fishing, which now no longer offers any inducement to prosecute it. Gaspereaux were plentiful in the river, and the improved demand, consequent on the poor catch in St. John, led to more vigorous fishing than usual. He says: "I have a great increase to report in the catch of oysters. They are now fished steadily from the commencement of the open season in September until the close season begins in June. At this excessive rate of fishing and by so great a number of boats, it is quite impossible that the beds will hold out many years longer." Smelts show a smaller catch than last year, but a better demand for frost-fish has resulted in a much larger catch of this fish which was formerly used only for manure. The growing demand for eels and flounders is turning more attention to the capture of these species, which hitherto have not been caught for export in this district.

*Overseer Wyse*, of Chatham and Lower Newcastle district, reports as follows:—"Our salmon fishery was not so productive in this district as usual, but the steady demand at good prices throughout the whole season made up for the smaller catch. Bass were so scarce that fishing for them has almost ceased below Chatham. Formerly large numbers were caught in this district, but now few are seen. The continued destruction of young bass in smelt nets above Middle Island, and excessive winter fishing in the North-West have almost exhausted the stock in our river. While the destruction of young bass in bag-nets continues no possible hope of any improvement in this fishery can be entertained. On the contrary nothing can be more certain than that it will grow worse with every succeeding year. Gaspereaux are again becoming plentiful because of late years few have been taken, and the fish have had a chance to increase. A good catch has been made. When smelt fishing commenced last fall the weather was favorable and the catch was enough for all the requirements of trade. The falling off in the catch in January was the life of the business, for, had the supply continued overstocked markets would have kept prices so low that profitable returns would have been impossible. The export of frost-fish



has increased, and large quantities formerly wasted now find purchasers at prices which pay fishermen for catching them.

*Overseer Hogan*, of Newcastle and North-Esk district, reports an average catch of salmon in that part of the river, but the bass fishery formerly so productive and profitable in the north-west branch of the river has shrunk to very small proportions. With more nets fishing the catch is but half that of last year, and but one-third the catch of 1886. This scarcity, Mr. Hogan very properly attributes to the two causes to which he has called attention in all his reports—overfishing in the past, and the great destruction of young bass in smelt nets in recent years. The catch of smelts, Mr. Hogan reports, as less than usual and the average size of the fish smaller.

Illegal fishing is not so common now as formerly, the new system of guardianship being more effective than the old. The great difficulty he and the other officers on the Miramichi now have to contend with is the detection of illegal fish when placed in charge of railway officials. If these men were prevented by law from carrying contraband fish, these could not be got to market, and there would be no inducement for dealers to buy them, and consequently no inducement for poachers to catch them.

*Overseer Sutherland*, of Red Bank district, reports salmon more plentiful than they have been for the last four or five years. He says that poaching has not been carried on to a very great extent, owing chiefly to heavy rains and unprecedented freshets, which cleared out all the salmon pools and made illegal fishing impossible. His returns show no bass nor smelts taken in his district.

*Overseer Parker*, of South West district, says:—"This year Providence has done much for the protection of salmon in the close season. The water was so high that spearing and drifting was next to impossible. But the great freshet this fall cannot fail to have disturbed the spawning beds by sweeping away gravel and sand, which will have a bad effect on the future supply. On Cain's River, the Renous and Dunganarvon, more salmon have been seen this fall than all seen in them for the last three years put together, and all have been fairly well protected from poachers.

*Overseer Freeze*, of Doaktown, reports that the early part of the season was very dry and the drought continued until August. The water was very low and warm all through the netting season, and the run of salmon was light, as it always is under these circumstances. During September the water was too high for spearing or drifting, and on the 8th October came the great freshet which raised the water a foot higher than it was ever known to reach in this part of the river. Frequent and heavy rains kept up the freshet all through the spawning season, and Mr. Freeze fears that much of the deposited ova has been swept away and destroyed. If this should be so, the supply of fish in 1892 will be much reduced.

*Overseer Orr*, of Boiestown and the upper district, reports that, in addition to his men, the Angling Club had two guardians and the Local Government one, so that there were nine guardians on the forty-five miles of river under his charge. The high state of the water assisted the guardians, and never was less illegal fishing done in this part of the Miramichi, where formerly the law was practically unknown. Anglers reported plenty of salmon and grilse and parr were seen in every part of the river; so that there is every reason to anticipate the best results from the new system of protecting the spawning beds.

#### KENT COUNTY.

*Overseer Hannah*, of Richibucto district, reports an average catch of salmon, cod and hake. The catch of smelts was not so large as last year, owing to the loss of many nets which were carried away by drift ice early in the season. Warden Harnett died very suddenly in the early part of December, and the Department has lost the services of an intelligent and faithful officer, who took an interest in his work and did it well. I have no report from him, but *Overseer Hannah* states that bass fishing has almost been abandoned on the river. The few that are caught are of small size and little value. The catch of gaspereaux, smelts and frost-fish, as shown in the returns, was about the same as last year.



*Overseer Guimond*, of St. Louis district, reports a decrease of nearly 50 per cent. in the salmon catch, which he attributes to rough and unfavorable weather in June. Mackerel fishery was a total failure as the fish did not come inshore. Herring were plentiful and fishermen caught all they had the means of curing. Cod fishing gave about an average catch. Bass have become so scarce that the fishery is not worth pursuing. The catch of smelts was less than that of last year, but none were lost from soft weather, and fishermen did a better business. Lobsters were fairly numerous early in the season, but got so scarce in July that factories could not work full time.

*Overseer Girouard*, of Buctouche district, reports a very small catch of mackerel and cod. Herring were plentiful, and the usual catch for home consumption was made. Bass are no longer fished, and for all practical purposes, are now nearly extinct in Buctouche River. The catch of smelts, though less than in past years, was still large. Lobsters were plentiful on this part of the coast, and the catch, both in quantity and quality, was better than usual, averaging about five and a-half to the can. Only five factories operated, but these worked full time during the whole season. Oysters are now so scarce that the fishery no longer pays those who formerly pursued it for a livelihood.

*Overseer Cormier*, of Cocagne district, says:—The catch of herring this year has been very poor in comparison with other years. The ice remained late on our shores, and fish did not strike in as usual. The catch of mackerel was also very small. Smelts were abundant, but not so many nets were fished in consequence of the increased license fee. Oysters have almost ceased to pay for raking; but lobsters were plentiful, of good size, and the factories that were in operation did a good business.

*Overseer LeBlanc*, of Legerville, at the head of Canaan River, continues to do good service in preventing the destruction of trout in the lakes and streams in that part of the county. The extension of the close season from January to April has prevented winter fishing through the ice, which in past years has done so much to reduce the stock of this fish in all our waters.

#### WESTMORELAND AND ALBERT.

*Overseer Deacon*, of Moncton, Shediac and Tormentine district, reports as follows: The lobster business, though the largest fishing industry in this county, has shrunk into small proportions, as compared with former years. Only 13 factories were in operation—9 less than last year. The returns show a decrease of 209,904 pounds from last year's catch, the cause of which is the shortness of the fishing season under the new regulations. The factories commenced work about 5th June and closed 15th July, deducting 14 days they could not fish on account of bad weather and 7 Sundays, left them only 20 days to work. Ice in the straits will not permit traps to be set sooner. Some of our smaller packers recommenced business in August, and carried it on in private dwellings, old mills, shanties on the shore and in the woods. With the assistance of *Overseer Goodwin*, I succeeded in ferreting them all out, and the fines imposed will, I hope, prevent any repetition of this illegal work, if the present unequal regulations are continued. Herring were very plentiful in the spring and larger catches than usual were made. Bass and trout are caught in considerable quantities, but these are all used for domestic consumption. The mackerel fishery has again failed—very few have been caught. The schools did not come inshore as usual, and those that were seen would not take bait as formerly, but on the least alarm struck down and disappeared in deep water. I have no doubt that the use of purse seines has caused this change in the habits of the fish, and I am convinced their continued use in our waters will soon destroy this fishery, once the most important and valuable on our coast. Smelt fishing was very poor last winter. The only reason I can give is the failing supply caused by past excessive fishing. In 1887 the catch in my district was 678,070 lbs.; this year it has fallen to 60,900 lbs., a decrease of 617,170 lbs. Thus are going all our fisheries, and I suppose they will continue to go until in the near future, we will awake to the fact that our best and most valuable resource is gone."

*Overseer Goodwin*, of Bay Verte and Sackville District, reports an increased catch of alewives, smelts and lobsters, but the shad fishery was very poor, the result, he thinks, of excessive fishing for the last thirty years. Mackerel fishing was also a failure in Bay Verte. A few appeared in July and August, but they would not take bait as in former years. Herring were abundant as usual in this bay, and an average catch was made for home use.

*Overseer Cormier*, of Dorchester District, again reports a very poor catch of shad, which he attributes to sawdust; but the cause of the scarcity here is, no doubt, the same that has reduced the catch of shad everywhere in the Bay of Fundy—over-fishing. Mr. Cormier again urges that fishing should not commence before the 20th June; that no boat should carry more than 200 fathoms of net, and that a weekly close time, from Friday night until Monday morning, should be enforced by Order in Council, as the fishermen generally wish these changes, as none but themselves can be affected, and as they must have a good effect on the fishery, I can only express regret that these measures, recommended and urged in my last four annual reports, have not been adopted, as every year shows the shad fishery to be getting worse, these or some better means must be taken to prevent the speedy collapse of this once important industry. There is the more need of prompt action, as this is the only fishery now left at the head of Bay of Fundy, in this Province, and its collapse will be a most serious matter for a large population in both Provinces.

*Overseer Stewart*, of Albert County, reports a poor catch of fish, which he attributes to a declining interest in fishing avocations in that agricultural and milling county, and to the injurious effects of sawdust on the fish that frequent the bay and streams. The fish-ways have been kept open and in repair, but it is doubtful if any salmon ever go through them.

#### VICTORIA COUNTY.

*Overseer Ryan*, of Grand Falls district, makes the following report:—"I am sorry to say the result of the year's business is not very satisfactory on the Tobique, owing to the river having been leased by the Provincial Government and not properly protected. The parties claiming to have charge undertook to frighten the settlers by putting up notices along the river forbidding fishing. All this had the reverse of the desired effect, and brought out spearing implements that had not been used for years. The result was a most deplorable tragedy, by which an unoffending and estimable lady was killed by a rifle bullet. The run of salmon was very good, even better than last year, and as there were no guardians on the river, of course illegal fishing was done to a large extent, not only by the settlers and Indians, but by the guides and employés of excursionists who visit the river ostensibly for fly-fishing. The only mode by which this river can be protected is by employing special guardians." As the greatest part of all the salmon that have reached their spawning beds on the Tobique for many years have been either killed by spears or swept off their "rids" to furnish eggs for the hatching house, there can be no reasonable hope of any increase in the stock while these things are allowed, nor can the settlers be expected to respect a law which the officers of the Department are allowed to violate. For the state of things that has continued on this river, I beg to refer to my general and special reports for the last twenty years.

#### CARLETON COUNTY.

*Overseer Lindsay*, of the Upper Division, reports as follows:—"Salmon were in all the pools in much larger numbers than I have ever seen them, with good prospects of a further increase next season, and this is entirely the result of the protection afforded by special guardians the last three years. The catch of salmon was not large owing to two causes: first, the high state of water during the whole angling season; second, the reduced number of anglers on the river since the New Brunswick Railway, which owns the lands, charged anglers \$2 per day for the privilege of fishing their waters. The result, however, will be good, as a larger number of fish will be left to spawn."



*Overseer Burt*, of the Lower Division, reports a good run of salmon, but very few shad. The upper part of this district is but a few miles from the Indian village, and a guardian was necessary to prevent the Indians from spearing, which is their only mode of fishing, and for which this part of the river offers every facility.

*Warden Scott*, at Eel River, reports that the fishing season opened with a good run of salmon, but these soon passed up river and the rest of the season was marked by great scarcity. Only six nets were set, and four of these were taken up some weeks before the law required. The catch was much smaller than usual.

#### YORK COUNTY.

*Overseer Orr* reports as follows:—I have found fish very scarce this season, neither salmon, bass nor shad gave average catches. There was no illegal fishing, nor indeed any great inducement to attempt it. Warden Cronkhite saw but one net set illegally, and that he seized. At Fredericton and at Springhill, the catch of salmon was not more than half that of last year, but shad and bass were much as usual. Whitefish are becoming numerous in the river, and more attention is given to their capture. There is no close time for this fish in New Brunswick, and as they are most numerous in the months of September and October, the great bulk of the whole catch consists of gravid fish. A close time covering, September, October, November and December, should be provided to allow this excellent food fish to multiply.

#### SUNBURY COUNTY.

*Overseer Hoben* reports a good catch of salmon and alewives, but shad were very scarce. Pickerel and perch are now the most important fishes in this part of the river, and the business of catching them for export is increasing. They bring good prices in the United States' markets, where the bulk of the catch goes packed in ice. As this fishery has become a valuable industry, there should be a close time to protect the spawning fish, and Mr. Hoben again urges, for the fourth year, that none be caught during the months of May, June and July, and that nets used for their capture should not be smaller in the mesh than three inches. For several years I have called attention to the importance of protecting these fish, but years pass and nothing has been done. I can only again urge its necessity in the hope that the requisite close time will be provided before excessive fishing and want of protection have time to produce their inevitable effect.

#### QUEEN'S COUNTY.

*Overseer Hetherington* reports about the usual small catch of salmon, shad and alewives, which do not increase. Pickerel and perch are now the most important fish in his district and the only ones that are exported or caught in excess of home consumption. He again pleads that regulations be made for their protection by providing a close time, that nets less than three inches be prohibited, and that during the months of June, July and August, no fishing for pickerel or perch be allowed.

*Warden Philips* reports a good late run of salmon up Canaan River; but shad and alewives were scarcer than he has ever known them. Trout are plentiful and afford good sport to anglers who visit this river all through the summer.

#### KING'S COUNTY.

*Overseer Belyea*, of Westfield and Belleisle district, reports a fair catch of salmon, shad, and alewives and a very large catch of bass—the latter principally in Belleisle Bay. The facilities now existing for getting fresh fish to American markets have given a great impetus to fishing in this bay, and good returns were made to those who gave their attention to the business.

*Overseer Gosline*, of Kennebecasis and its tributaries, reports an increase in the catch of both shad and alewives; but salmon have almost disappeared from these waters. Both pickerel and perch continue plentiful, and considerable quantities of these fish are now sent from his district to American markets.



## ST. JOHN COUNTY.

*Overseer O'Brien*, reports as follows:—"The catch of salmon was smaller than last year. A falling off of over 30 per cent. is shown in the catch of alewives compared with last year, but higher prices in some measure compensated for the short catch. Shad and herring gave about the same returns as last year. Lobsters were about as usual. The catch is very large in St. John County; though of late the surplus from home consumption is sent in ice to Eastport and Boston." Mr. O'Brien urges that a close time for alewives be made from 1st July to 1st April, the effect of which would be very beneficial in increasing the future supply.

*Overseer Rourke*, of St. Martin's, reports about average catches of herring and lobsters, which are the only fishes the capture of which is pursued with any energy in this district. Line fishing for pollock and cod is not followed to the same extent as formerly; but a small quantity of each was taken, principally for home use. The inland waters abound with fine trout; and some few salmon are still found in Salmon River, the principal stream in the district.

## CHARLOTTE COUNTY.

*Overseer Todd*, of St. Croix district, reports that, excepting sardine herring, the catch of all kinds of fish was smaller than last year. Three or four of the herring weirs were very successful, and in the early part of the season brought good prices. Salmon were scarcer than last year. The fishways are in good condition and have been kept open at all proper times. The two night guardians, one hired by the American Commissioners for their side of the river, and one hired by Mr. Todd for the New Brunswick side, have put a stop to the drifting and illegal fishing which formerly prevented any increase and thus rendered nugatory all efforts to restock the river. This season 300,000 young salmon were planted in the St. Croix below Vanceboro' from which good results are hoped.

*Overseer Campbell*, of St. Andrew's Bay, says: "I am sorry to have to report that fishing in the bay has been very unprofitable, not from scarcity of fish, but from want of a market for sardine herring. Winter fishing was not good. The fish did enter the bay in large numbers, and our small boats could not pursue them outside. Lobster fishing was not followed with much energy. The canneries in Maine were closed, and the small catch was sold fresh in Eastport. The land-locked salmon fry that were put into Chamcook Lakes some years since appear to have done well. A number of fine fish were caught there with the fly this summer. The high prices paid for sardines in 1886 and 1887 and the good catches made by a few fortunate weirs, induced a perfect craze for weir licenses and a large number of new weirs was built and preparations made for a large business. In the early part of the season fish were plentiful and brought good prices, when the Eastport buyers combined to fix the price at \$5 per hogshead. The weir men struck, held a meeting at St. Andrew's and agreed to take no fish from their weirs until the price was left to open competition. This strike lasted only a fortnight, for, contrary to their usual habits, the small herring remained about Deer Island, Campo Bello and the American shore, and the factories got all they required from these places, at prices so low that the mere labor of tending the weirs was not paid for. While sardines were thus more plentiful than usual, large herring fit for selling or smoking were very scarce, and some parties commenced using the small herring for manure. The presence of the cruiser, the "Dream," gave force to my warnings, and the destruction of young fish was prevented. I may add that Captain Pratt was as busy in keeping our own fishermen within legal bounds, as in preventing poaching by our American neighbors, and that his presence is much needed in Charlotte County."

*Overseer Ash*, of Beaver Harbor, reports an increased catch of all kinds of fish. While sardines were more than usually numerous, the low price was very discouraging to fishermen, who made a poor season and would have felt it more severely had live fish not been plentiful and sold for good prices. An average catch of lobsters found a ready market in Eastport. The low price of sardines offered no inducement for torching and this objectionable mode of fishing was not pursued this season.

*Overseer Lord*, of Deer Island and Letete district, reports as follows :—"There has been an increased catch of all kinds of fish. Cod and pollock have not been so plentiful in the district for the last twenty years. Hake and haddock were also more numerous in our waters. Large herring were unusually abundant and brought good prices, both frozen and pickled. The facilities now given by rail for access to western markets, has directed a large portion of the fish trade to St. John, where transportation is offered on better terms than from Eastport; and this competition is favorable to fishermen. The catch of sardine herring has not been large, but the fish have been more generally distributed over the district, giving a more equal division to the weirs. The unfortunate depression in the sardine market has kept prices low, and prevented fishermen from utilizing the unusual abundance of fish with which the waters of Charlotte teemed the whole season. The low price of sardines led to a large increase in smoked herring, the price having risen so as to make the business remunerative."

*Overseer Brown*, of Campobello, reports a good catch of fine fish for which improved prices were obtained. Pollock were very plentiful, and cod, hake and haddock all gave better catches than have been known for years. "Sardine herring were plentiful here, as elsewhere, but low prices at the factories gave no inducement to fish the weirs, and many of them have made nothing this season. Had it not been for the excellent fine fishing our fishermen would have had a hard time."

*Overseer McLaughlin*, of Grand Manan, reports as follows :—"The season about closing has been successful in all kinds of fish taken in these waters. Herring have been more than usually abundant on all the shores of the island, and most all the weirs have fished successfully. The quantity of smoked herring exceeds that cured in any former year. Sardine herring are beginning to be more generally utilized, and if prices rise to their former level, this business will form an important item in our industries. To enforce the close time at Southern Head spawning grounds required my constant attention and personal exertion for three months. With less help than in past years I have effectively protected the spawning fish, and the results are seen in the continued abundance of young fish notwithstanding the drain made on them for the past ten years to supply the sardine factories. Transient fishermen from St. John and elsewhere, come to these waters under pretence of line fishing, with all appliances for seining and gill net fishing, which they are prepared to pursue within the limits whenever they can evade detection. All the line fish were abundant, large fares have been made, and our people are now convinced that the enjoyment of our own fishing grounds, free from foreign intrusion, is all they need, believing that markets will take care of themselves, and that the demand must and will be supplied as long as there are fish to be caught."

Respectfully submitted,

W. H. VENNING,

*Inspector of Fisheries, New Brunswick.*



## NEW BRUNSWICK.

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, &c., in the Province of **New Brunswick**, for the Year 1888.

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						KINDS OF FISH.											
	Vessels.			Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.		Salmon, fresh, in ice, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sunds, barrels.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.										
<i>Rivisigouche.</i>  From Tide Head to Dalhousie. From Dalhousie to Belledune.	.....	.....	.....	.....	34	340	8340	\$ 8340	.....	.....	.....	9	135	.....	.....	52116	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	75	750	20000	6000	.....	.....	.....	.....	.....	.....	2700	900	111000	8000	.....	.....	.....	.....		
	.....	.....	.....	.....	1.9	109	28340	14340	.....	.....	.....	9	135	.....	.....	163116	8000	.....	.....	100	.....	.....		
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
<i>Gloucester.</i>  Petit Rocher..... Bathurst..... New Brandon..... Upper Oaraquet..... Lower do..... Grand Anse..... Shippegan..... Miscou Island..... Pokemouche..... Tracadie.....	.....	.....	.....	.....	100	1500	5000	5000	.....	.....	.....	.....	.....	.....	.....	80000	.....	100	.....	150	.....	800	.....	
	.....	.....	.....	.....	60	1200	6050	6050	.....	.....	.....	.....	.....	.....	.....	120000	.....	90	.....	850	.....	175	.....	
	.....	.....	.....	.....	100	2500	200	4700	.....	.....	.....	.....	.....	.....	.....	175000	.....	150	.....	2000	.....	3500	.....	
	4	43	1550	16	135	12700	405	5560	6370	.....	.....	15	510	.....	1200	.....	.....	14	.....	1500	.....	18000	.....	
	7	82	2300	27	137	3800	411	6080	26125	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	2000	.....	22000	.....	
	3	127	1500	12	80	5000	220	4000	2000	1	3000	10	350	.....	1800	35183	.....	100	.....	2000	25	13500	.....	
	14	173	4850	48	235	19300	517	9250	6930	.....	.....	40	12.0	.....	12150	18785	.....	45	1300	1330	.....	1440	.....	
	2	32	900	9	53	2500	120	900	540	.....	.....	17	595	.....	1000	2800	.....	.....	.....	305	.....	1600	.....	
	2	19	250	6	24	370	48	1500	1500	.....	.....	30	1000	.....	500	5000	.....	.....	.....	1500	350	400	.....	
	.....	.....	.....	.....	7	420	16	4500	436	.....	.....	280	3360	.....	1750	1400	8670	220	170	460	2420	420	720	2
	32	476	11350	118	911	48780	2207	47510	59645	1	3000	392	7015	.....	18400	19500	442638	2402	679	1760	18550	795	62535	2



RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—New Brunswick—Con.

DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.			VALUE.					
	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Hallibut, lbs.	Shad, barrels.	Bas, lbs.	Trout, lbs.	Frost Fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelt, lbs.	Keils, barrels.	Oysters, barrels.		Lobsters, tons.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.
<i>Pistigouche.</i>	.....	.....	.....	.....	.....	.....	500	.....	.....	.....	24040	.....	.....	4	59600	.....	.....	.....	10,423 20
	.....	.....	.....	.....	.....	.....	500	.....	.....	.....	24010	.....	.....	4	59600	.....	600	.....	35,252 40
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600	.....	45,675 60
<i>Gloucester.</i>	.....	.....	.....	.....	.....	.....	2000	4000	.....	.....	250000	.....	.....	.....	154000	.....	1000	.....	45,900 00
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	44,810 00
	.....	.....	.....	.....	.....	.....	200	.....	.....	.....	15000	.....	64150	.....	100500	.....	760	.....	74,675 00
	.....	.....	.....	.....	.....	.....	1000	.....	10	.....	.....	5	.....	.....	223490	1850	2500	500	134,963 50
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2300	3500	500	122,320 00
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4000	.....	.....	86475	1600	1000	500	40,210 35
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47883	67	.....	160895	7150	3000	3800	108,980 23
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	46788	15	.....	16871	180	3500	650	36,491 29
	.....	.....	.....	.....	.....	.....	200	3000	.....	.....	.....	36000	.....	.....	4800	160	250	50	13,467 00
	.....	.....	.....	.....	.....	.....	80	150	.....	10	1150	280000	50	.....	35720	30	400	.....	43,450 00
	2176	2602	1070	1540	3	2500	6350	4000	20	1150	673772	143	4150	597	782851	13160	15150	6700	668,167 37



RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &amp;c.—New Brunswick—Con.

DISTRICTS.	KINDS OF FISH.												FISH PRODUCTS.			VALUE.			
	Hake, cwt.	Hake, Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bas, lbs.	Trout, lbs.	Frost fish, lbs.	Flounders, lbs.	Smelt, lbs.	Perch, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, tons.	Lobsters, cwt.		Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as man- ure, barrels.
Northumberland.	65	100	....	1000	....	1000	800	....	....	64000	....	3	2000	....	181000	100	2000	2000	48,223 80
	80	200	....	700	....	4000	500	....	....	48290	....	40	....	....	216000	500	800	1200	35,556 80
	....	....	....	....	....	200	....	....	....	156500	....	25	50	....	27037	....	300	....	16,556 55
	....	....	....	....	....	....	....	94000	20000	217902	....	20	8000	....	....	....	10	500	54,889 12
	....	....	....	....	....	2000	1000	7000	10000	750000	....	5	100	....	....	....	....	1000	67,800 00
	....	....	....	....	....	14377	300	1895	....	57707	....	28	....	....	....	....	....	....	21,272 64
	....	....	....	....	....	1500	800	....	....	....	....	....	....	....	....	....	....	....	570 00
	....	....	....	....	....	....	600	....	....	....	....	....	....	....	....	....	....	....	8,777 00
	....	....	....	....	....	....	500	....	....	....	....	....	....	....	....	....	....	....	1,955 00
	....	....	....	....	....	....	1200	....	....	....	....	....	....	....	....	....	....	....	1,195 90
Totals.....	145	300	....	1700	105	23077	5700	102895	30000	1292399	....	121	10150	....	210197	600	3110	4700	256,595 61
Kent.	700	700	....	....	10	500	....	....	3000	170000	10000	125	330	....	195000	300	3000	....	70,990 00
	1500	3000	....	2500	....	500	2000	8000	10000	522000	10000	12000	28	....	97000	1300	1800	150	201,191 50
	....	....	....	....	....	550	700	40000	1000	100000	7000	1100	300	....	....	....	....	....	19,913 00
	255	325	15	230	....	....	375	....	10000	164500	....	38	620	10	54864	202	520	....	28,702 40
	60	....	75	....	....	200	300	5000	....	39357	....	40	700	....	99168	90	150	....	25,259 62
	Totals.....	2515	4025	90	2730	10	1750	3375	53000	24000	995857	27000	13303	1978	10	446032	1892	5470	150







RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—New Brunswick—Cont.

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.		KINDS OF FISH.						VALUE.
	Vessels.			Boats.			Nets.		Alewives, barrels.	Shad, barrels.	Bass, lbs.	Pickereel, lbs.	Perch, lbs.	Hels, barrels.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.							
<i>York.</i>			\$			\$		\$							\$ cis.
York County Line to Sunbury County Line .....									7250	40	1000	1500			2,000 00
<i>Sunbury.</i>															
Mangerville.....	1	10	150	4	20	200	40	100							745 00
Oromocto.....					5	50	10	200	450	4	1000	1000			348 00
Sheffield.....					16	160	30	500	140	5	1100	1000			
Lakeville.....					20	200	40	1200		10	8000	50000	10000	2000	25,095 00
Barton.....					10	100	20	300	50	11					165 00
Gagetown.....					11	110	22	300	25	12	1000				410 00
Lower Gagetown.....					15	150	30	400	1200	10	15 1000				495 00
Oromocto French Lake.....					10	100	15	200		30		2000			255 00
River St. John.....					20	200	30	400	100	50	1000	2000			525 00
Ounabog.....					10	100	15	100	50	3	1000	2000			322 50
	1	10	150	4	117	1170	212	3600	1985	595	14100	58000	10000	2000	28,396 50
<i>Queen's.</i>															
Washademoak Lake, River St. John and Grand Lake....					140	1800	280	9000		650	1400	55000	4000	50	11,429 00
Canaan River.....									1400	50		1500	1000		1,025 00
					140	1800	280	9000	1400	700	1400	56500	5000	50	12,454 00



RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—New Brunswick—Con.

No.	DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						KINDS OF FISH.									
		Vessels.			Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.		Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Mackerel, in cans.	Herring, barrels.	Herring, frozen number.	Herring, smoked, in boxes.	Alewives, barrels.	
		No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.								Value.
<i>King's.</i>																							
1	Westfield, Nerepis and Belleisle .....	...	...	...	...	56	\$ 560	51	1940	\$ 796	...	...	...	...	...	11000	...	...	...	...	...	...	600
2	Kennebecasis and Tributaries.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
	Totals .....	...	...	...	...	56	\$ 560	51	1940	\$ 796	...	...	...	...	...	11000	...	...	...	...	...	...	640
<i>St. John.</i>																							
3	Quaco Head to Lepreau, including St. John Harbor....	26	440	8800	90	250	5800	470	82000	58000	24	9000	...	...	4000	4000	160000	4000	...	24000	4600000	14000	6850
4	St. John Harbor to Goose River .....	...	...	...	...	10	165	20	...	...	...	...	...	...	...	...	...	...	...	125	...	...	...
	Totals .....	26	440	8800	90	260	5965	490	82000	58000	24	9000	...	...	4000	4000	160000	4000	...	24125	4600000	14000	6850
<i>Charlotte.</i>																							
5	St. Croix.....	...	...	...	...	25	1625	75	120	72	7	1400	...	...	...	5000	...	...	...	200	...	...	300
6	St. Andrew's Bay....	5	60	2000	15	150	3750	200	5000	2500	89	38250	2	10	1150	1150	...	...	...	...	1700000	5000	...
7	La Tête to Beaver Harbor.....	22	230	11000	110	120	3000	240	18000	12000	92	9200	...	...	3000	3000	...	...	...	1500	6000000	18000	...
8	Deer Island.....	15	255	9000	75	260	17800	390	13400	60000	72	43200	...	...	3000	2000	...	...	...	600	3000000	10000	...
9	Campo Bello .....	26	398	9450	96	195	11700	390	1970	1252	35	3000	...	...	400	300	...	...	...	1400	2000000	18500	...
10	Grand Manan.....	9	150	9000	45	450	4000	561	20600	10000	32	32000	...	...	8000	8000	...	...	...	20000	5005500	1380000	...
	Totals .....	77	1093	40450	341	1200	77875	1856	58490	85824	327	127050	2	10	15550	14450	5000	...	...	23700	17705500	1431500	300

[illegible]

# RECAPITULATION showing the Quantity and Value of Fishing Material, &c.—New Brunswick.

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.					
	Vessels.			Boats.			Nets.		Weirs.		Smelt Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
Ristigouche.	32	476	11350	118	109	1090	28340	14340	.....	.....	9	135
Gloucester.	8	249	11700	52	941	48790	47540	59615	1	3000	392	7915
Northumberland.	7	218	8840	72	369	7570	39803	56439	.....	.....	594	16248
Kent.	2	103	2150	22	774	19418	37350	21540	.....	.....	452	15179
Westmoreland.	.....	.....	.....	.....	668	12420	1336	25400	.....	.....	1031	2775
Albert.	.....	.....	.....	.....	1	50	275	100	.....	.....	.....	.....
Victoria.	.....	.....	.....	.....	10	100	300	200	.....	.....	.....	.....
Carleton.	.....	.....	.....	.....	65	900	600	350	.....	.....	.....	.....
York.	.....	.....	.....	.....	117	1170	3600	1950	.....	.....	.....	.....
Sunbury.	1	10	150	4	140	1800	9000	2400	.....	.....	.....	.....
Queen's	.....	.....	.....	.....	56	860	1940	796	.....	.....	.....	.....
King's	.....	.....	.....	.....	90	5665	82000	58000	.....	.....	.....	.....
St. John.	26	440	3800	341	260	77875	58490	85824	24	9000	.....	.....
Charlotte	77	1093	40450	341	1200	77875	58490	85824	327	127050	2	10
Totals	153	2759	82940	699	4710	177708	334638	315549	382	139350	2480	41362
											84013	80873



# RECAPITULATION showing the Quantity and Value of Fishing Material, &c.—New Brunswick—Continued.

## KINDS OF FISH.

### DISTRICTS.

	Salmon, Barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herrings, frozen, number.	Herrings, smoked, in boxes.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Souds, barrels.	Pollock, cwt.	Hake, cwt.	Hake Souds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.
Ristigouche.....	.....	163116	.....	8000	.....	.....	100	.....	.....	.....	795	62535	.....	2176	2602	1070	1540	3	2500
Gloucester.....	.....	442638	.....	2402	679	1760	18550	.....	.....	2015	920	.....	.....	145	300	1700	1700	105	23077
Northumberland.....	.....	342471	3000	600	271	.....	2700	.....	.....	556	1430	.....	.....	2515	4925	90	2730	10	1750
Kent.....	.....	34500	.....	.....	.....	111	5480	.....	.....	500	20	.....	.....	.....	.....	.....	.....	657	4000
Westmoreland.....	.....	1400	.....	.....	1008	1275	17800	.....	2550	.....	25	.....	.....	.....	.....	.....	.....	30	.....
Albert.....	.....	2000	.....	.....	.....	.....	25	.....	200	.....	.....	.....	.....	.....	.....	.....	.....	20	.....
Victoria.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	.....
Carleton.....	.....	14000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	.....
York.....	.....	7250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	1000
Sunbury.....	.....	1965	.....	.....	.....	.....	.....	.....	.....	595	.....	.....	.....	.....	.....	.....	.....	70	14100
Queen's.....	.....	1400	.....	.....	.....	.....	.....	.....	.....	700	.....	.....	.....	.....	.....	.....	.....	490	1400
King's.....	.....	11000	.....	.....	.....	.....	.....	.....	.....	640	.....	.....	.....	40	.....	.....	.....	180	100000
St. John.....	.....	160000	4000	.....	.....	.....	24125	4600000	14000	6850	915	.....	312	.....	.....	1516	.....	1540	4000
Charlotte.....	.....	5000	.....	.....	25	.....	23700	17705500	1431500	300	20850	15	36150	26600	28050	15550	12000	.....	.....
Totals.....	98	1186740	7000	11002	2094	8515	95225	22305500	1448250	12951	86695	17	36462	31476	34977	18226	17970	3185	151827

RECAPITULATION showing the Quantity and Value of Fishing Material, &c.—New Brunswick—Concluded.

DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.				VALUE.		
	Trout, lbs.	Frost Fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelt, lbs.	Pickarel, lbs.	Perch, lbs.	Eels, barrels.	Sardines, bbls.	Oysters, barrels.	LOBSTERS, tons.	LOBSTERS, cans.	Fish Oil, gallons.	Fish Guano, tons.		Fish used as bait, barrels.	Fish used as manure, barrels.
Ristigouche.....	500				24040			143			4	59600			600		45,675 60
Gloucester.....	6350	4000	20	1150	673772			121		4140	597	782851	13160		15150	6700	665,187 37
Northumberland.....	5700	102895		30000	1292399			10150		10150		210197	600		3110	4700	256,595 61
Kent.....	3375	53000		24000	995857		27000	13303		1978	10	446032	1892		5470	150	346,056 52
Westmoreland.....	3900	12000	50	2500	154300			170		106	250	267898			3250	4400	164,210 95
Albert.....	1000				3000			200					20				1,238 00
Victoria.....	2000						1000	1									3,055 00
Carleton.....																	5,440 00
York.....																	2,000 00
Sunbury.....						1500	10000	2000									28,396 50
Queen's.....						58000	5000	50									12,454 00
King's.....	400					56500	2000	137									15,302 00
St. John.....						13200	2000	50			116		700		400	250	222,822 00
Charlotte.....	8500	3000	108	26000	6100	3000		10	15963		971	76800	74320	265	2625	8900	1,173,449 50
Totals.....	53725	174895	178	83650	3149468	132200	45500	16185	15963	16384	1948	1843368	90692	265	30605	25100	2,941,863 05

# RECAPITULATION of the Yield and Value of the Fisheries of the Province of New Brunswick, for the Year 1888.

Kinds of Fish.	Quantities.	Prices.		Value.
		\$	cts.	
Salmon .....	Brls. 98	16	00	1,568 00
do fresh, in ice .....	Lbs. 1,186,740	0	20	237,348 00
do smoked .....	Lbs. 7,000	0	20	1,400 00
do in cans .....	Lbs. 11,002	0	15	1,650 30
Mackerel .....	Brls. 2,094	15	00	31,410 00
do in cans .....	Lbs. 8,515	0	15	1,277 25
Herring .....	Brls. 95,225	4	00	380,900 00
do frozen .....	per 100. 22,305,590	0	60	133,833 00
do smoked .....	Boxes. 1,448,250	0	25	362,062 50
Alewives .....	Brls. 12,951	4	50	58,279 50
Cod .....	Cwt. 86,695	4	00	346,780 00
do Tongues and Sounds .....	Brls. 17	10	00	170 00
Pollock .....	Cwt. 36,462	4	00	145,848 00
Hake .....	Cwt. 31,476	4	00	125,904 00
do Sounds .....	Lbs. 34,977	1	00	34,977 00
Haddock .....	Cwt. 18,226	4	00	72,904 00
Halibut .....	Lbs. 17,970	0	10	1,797 00
Shad .....	Brls. 3,185	10	00	31,850 00
Bass .....	Lbs. 151,827	0	06	9,109 62
Trout .....	Lbs. 53,725	0	10	5,372 50
Frost Fish .....	Lbs. 174,895	0	04	6,995 80
Squid .....	Brls. 178	4	00	712 00
Flounders .....	Lbs. 83,650	0	10	8,365 00
Smelt .....	Lbs. 3,149,468	0	06	188,968 08
Pickarel .....	Lbs. 132,200	0	06	7,932 00
Perch .....	Lbs. 45,500	0	03	1,365 00
Nels .....	Brls. 16,185	10	00	161,850 00
Sardines .....	Hog'ds. 15,963	6	00	95,778 00
Oysters .....	Brls. 16,384	3	00	49,152 00
Lobsters .....	Tons. 1,948	30	00	58,440 00
do .....	Cans. 1,843,368	0	15	276,505 20
Fish Oil .....	Galls. 90,692	0	40	36,276 80
do Guano .....	Tons. 265	25	00	6,625 00
do used as bait .....	Brls. 30,605	1	50	45,907 50
do do manure .....	Brls. 25,100	0	50	12,550 00
Total, 1888 .....				2,941,863 05
do 1887 .....				3,559,506 89
Decrease .....				617,643 84



NUMBER AND VALUE of Vessels, Boats, Nets, Weirs, Traps, etc., engaged in the Fisheries of the Province of New Brunswick, during the Year 1888.

	Value.	Total.
	\$ cts.	\$ cts.
153 Vessels, 2,759 tons.....	82,940 00	
4,710 Boats.....	177,703 00	
334,638 Fathoms nets.....	315,549 00	
382 Weirs.....	139,350 00	
2,480 Smelt nets.....	41,362 00	
84,013 Lobster traps.....	80,073 00	836,982 00
73 Lobster Factories.....	50,030 00	
36 Freezers.....	22,150 00	
59 Ice houses.....	10,045 00	
630 Smoke houses.....	61,660 00	
90 Oil presses.....	7,140 00	151,025 00
Total.....		988,007 00

## APPENDIX No. 4.

## PRINCE EDWARD ISLAND.

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND, FOR THE  
YEAR OF 1888, BY MR. J. HUNTER DUVAR, INSPECTOR.

ALBERTON, 31st December, 1888.

To the

Honorable CHARLES H. TUPPER,  
Minister of Marine and Fisheries.

SIR,—I have the honor to transmit Annual Report on the Fisheries of the Province of Prince Edward Island for the year 1888, together with tabulated statements of product and values.

*Summary.*

The fishery product of the year shows the large decrease in value of \$160,563.10 as compared with the returns of 1887. This deficit is due to a largely diminished catch of mackerel and continued falling off in lobsters.

Indeed the mackerel fishery was a complete failure in quantity, the catch being but one-half of that of last year, the figures being only 12,648 barrels against 24,027 barrels in 1887, that year itself having had but a small catch. This unlooked-for deficiency has not been so much owing to scarcity of fish, as to their exceeding wildness, their not schooling freely, and their keeping very much in mid-sea instead of, at usual, striking the shore. Hence seining was less productive than the old process of hook-and-line, in consequence of which many seining crews abandoned seines and went back to the hook. Quality was generally superior. High prices have done something towards compensating for the poor catch, but not to the extent that an average year at moderate prices would have done. The fishery wardens estimate that there were 150 to 200 American seiners in the bay, and they are stated to have done poorly.

When barrelled mackerel fetch a high price; it does not pay to *can*, therefore this year shows no more than 34,360 one-pound cans, or less than 200 barrels. In years of plenty of fish with low prices, from a quarter to over half a million of cans have been put up.

In lobsters, 33 fewer factories, with 6,628 fewer traps, were in operation, resulting in a deficiency of 562,880 cans below the diminished product of last year. This is the lowest point the industry has yet touched, namely, a catch of 1,446,227 cans, which, although in itself a large quantity, representing eight to ten millions of lobsters, contrasts strikingly with the return of only seven years since, in 1881, when the product culminated in over six and a quarter millions of cans. So rapid a decadence can only be set down to persistent overfishing. The lobsters canned average little over  $2\frac{1}{2}$  ounces of meat in each, it having taken  $6\frac{1}{2}$ , or more nearly seven fish to fill a one-pound can. The small size of material used has naturally had the effect of reducing the quality of the goods, and further affords a grievous proof that the bulk of the lobsters used are young that have not reached the three to four years of age at which they are capable of reproduction. The question of whether a short-

ened fishing is, in itself, sufficient to restore the fishery to a healthy condition, remains unsolved by the experience of this year's fishing. I would beg to mention that Prince Edward Island packers are differently situated from those on the mainland, inasmuch as the former have to order their supply of tin and other material, so as to reach them before the close of navigation, that is to say, a year ahead, and I am given to understand that they have already laid in their stock on the chance of a fishing season next year. For figures relating to the industry, please see page 125 of this report.

Spring herring can scarcely be regarded as a commercial fishery, but mainly as supplying bait to the lobster, cod, and mackerel fishers. Total catch, 32,883 barrels, of which 26,000 barrels were used as bait and only about 7,000 barrels put up as food. This is rather under the figures of last year. The bait supply was nearly sufficient, although, as usual, some schooner loads were imported from the Magdalen Islands.

Late in the year, after returns were in, good catches of fall herring were made off the coast of King's County and were put on market as food fish, some being sent fresh to Boston. It has always appeared to me that there is encouragement to prosecute the fall herring fishery on a larger scale.

The quantity of deep sea fish, cod and hake, cured in 1887, was 34,655 cwt., against 51,522 cwt. this year; details being 39,062 cwt. of cod, 12,460 cwt. of hake, an increase of 12,640 cwt. on cod and 4,227 cwt. on hake, besides an increase of 64,306 pounds of haddock. Fish were large and of good quality, the fishermen, in general, having gone farther off shore; but for the outer sea a better class of boats than those in use would be desirable, in fact necessary, before the fishery can be pursued to the extent it merits. The scarcer mackerel are the higher the price anticipated, and hence a number of fishermen were seduced from the safer chance of codfishing to try their luck at mackerelling; but without improving their prospects.

The oyster fishery was actively prosecuted; with shipments of 35,861 barrels. I would beg to refer for details to page 127 of the present report, under the heading of "Oysters."

Rivers and streams are in good condition. Fish of the rivers and estuaries have kept up to the average quantity. Salmon are taken only by chance in shore fisheries, chiefly at St. Peter's Bay, and the quantity is small, this year 1,563 pounds. Several clean fish have been observed in the rivers, but none were taken. The supply of breeding salmon seeking the spawning beds, this fall, seems satisfactory. The fishery officers have had some trouble in preventing spearing. Trout are abundant in every stream. Smelts do not appear in the record, the close season of April practically prohibiting them. Eels have become an increasing article of export; last year about 1,000 bbls, this year 1,937 bbls.

There is only one licensed fish-trap, that belonging to J. H. Myrick & Co., Tignish, which did not prove a success, and was taken up early.

The dam at the salmon hatchery on Dunk river, Prince County, having been carried away, for the second time, it has been deemed advisable to close the establishment for the present.

The respective close seasons and other regulations have been, on the whole, well observed, excepting in a few instances of lobster canning after legal date, on which due action was taken. A few seizures of oysters and lobsters have been distributed to charities.

The short season has let loose a number of additional men to claim fishing bounty. From the time and exertion needed in catching mackerel this year the most of them will probably earn their allowance. But (as in previous reports), I would draw attention to the query—whether fishing bounty is intended for the catching of herring used merely for bait, and again on fish caught by such bait? Many bounty claims are based on the catch of herring bait.

The Government cruisers continue to be favorably looked upon by the fishermen as a great protection to their interests.

The fishing tonnage is steadily increasing; fourteen small vessels, with 156 tons, have been added to the fleet. Nets and seines have increased 2,800 and 1,540



fathoms, respectively; 4,384 men have been engaged in the fisheries afloat and ashore. Last year the number was 4,059.

An estimate of the capital employed in the Prince Edward Island fisheries may be thus made: In sea fishing, \$216,750; lobster fishery, \$152,629; oyster fishery, \$10,000; total, \$379,379.

The Prince Edward Island fisheries for the year 1888, may be briefly summarised thus: Mackerel, one-half less; herring, one-sixth less; cod and hake, one-third more; haddock, one-fifth more; lobsters, one-fourth less; eels, double; other fish, one-fourth more; fish products about the same as compared with last year.

Details are given under the respective headings.

#### HERRING.

This fishery is entirely subsidiary to the mackerel, cod and lobster fisheries, almost the whole catch being used for bait, but a small proportion being put on the food market. In addition to those caught at home quantities for bait are imported, chiefly from the Magdalen Islands.

56,000 fathoms of nets—not a large stretch for our long coast line—were set. Salt is an expensive article not to be wasted on herring, but kept in reserve for mackerel. Consequently the actual herring food-fishery is limited to a few barrels for home supply and the payment of store bills, the remainder being sold to lobster and other fishermen for bait. This year of the 32,883 barrels taken only about 7,000 barrels were put up as food.

None are smoked, and there is no material for preparation as sardines.

Shoals of herring appear as soon as the ice breaks up, say from 20th April to 1st May, or when the temperature of the water is about 48° Fahrenheit (at a few degrees higher lobsters likewise approach the coast). Striking the shore irregularly herring remain on the whole seaboard for six weeks, or until the middle of June, when mackerel come in when the temperature is 60°. Large quantities of herring are frequently found mixed with mackerel schools in summer. In fall, herring shoals of a much superior quality again strike our coast.

In previous reports I have drawn attention to the prospects of a profitable fall herring fishery that exist around three sides of this island, were fishermen enterprising enough to take the matter up. Good, fat herring were seen along the coast this year in July. To do any good with a fall fishery it ought to commence as early as August or beginning of September, but at that time mackerel fishing is in full force, and fishermen hesitate to leave a known business for an unknown one. It requires only an outfit of fixed nets of 2½-inch mesh instead of the spring size of 2¼ inches. These nets would fish by themselves when set, and herring catching need not interfere with the mackerel fishery, unless drift nets were used, which would require more time to attend to. In every fall of the past ten years the fishery wardens have reported good herring on the coast. This is an industry sure to be developed in the future, especially in poor mackerel years. For these reasons, in reply to recent enquiry by the Fishery Commissioners for Scotland as to the chance of purchase of Scotch pickled herrings in Prince Edward Island, I felt justified in answering to the effect that this Province has the raw material for a herring fishery of her own, even to the extent of considerable export.

Were an export herring fishery established it would be wholly a Canadian industry, with no fear of competition from the United States.

*Later.*—Since the above was written, considerable quantities of good fall herring have been taken, until the middle of December, on the coast of King's County, and some have been sent fresh to Boston.

#### MACKEREL.

Although so few were taken there was no lack of fish on the coast. Excepting in the early part of the season they do not seem to have schooled freely, and later they were exceeding wild and unwilling to bite. Including the few canned and others that were transported along shore, the catch may be set down as slightly

under 13,000 barrels. This is a falling off of fully one-half from last year. The fishery was a good deal interrupted by gusty weather.

Mackerel are so erratic in their habits, and their movements may be influenced by so many unknown causes that no reliance is to be placed on any estimate of where they may be found at any given time. As far as can be roughly traced, the schools this year seem to have struck mainly about East Cape, thence running across in mid-sea towards North Cape, the other horn of the island; do not seem to have stayed much in the bight of the bay. Hence Queen's County, which lies between the two points, has only one-half the usual average, King's County about one-half or a little under, while Prince County has made three-fourths of an average fishing; the average of the whole Province being a little more than one-half the catch of last year.

A diary of the fishing season by Islanders shows frequent times of disappointment with occasional spurts of good luck. I have no returns of any caught in June, excepting a few taken towards the end of the month in nets to the eastward of the Island, but none by seining. To 9th July very scarce, owing to prevalent easterly winds; none seined yet. From about 17th to end of July, good times; schooling plentifully and large catches made at Cascumpeque and Malpeque; observed schooling around Summerside and Charlottetown wharves; at Cavendish, 27th, so far a total failure; 29th, schooner "Emerald" arrived at Georgetown from Lauching Bay with first fare seined, and reported hooks doing nothing. Some of the fish very fine; 70 culled filled a barrel, at more than one place. Reported that the American catch for July not half of last year. 7th August, no fish anywhere for past week and fishermen much discouraged, 8th, a fair catch seined off Charlottetown, 15th, Americans to date very poor—fish still very scarce. In the latter part of August began to show up better, and, considering the unsettled state of the weather, prospects were more encouraging. About the middle of the month many observed off Souris; also, 11th and later, plentiful between Cascumpeque and North Cape; 20th, for a week past hooks did fairly well, especially around East Cape; no seining. In the early part of September some good catches off Tracadie, and fair hooking generally throughout the month, but weather frequently cold and blustering. By the end of the month Americans had withdrawn from the upper bay; middle of September some 25 sail of Americans arrived at Souris from Gloucester, reported no mackerel on United States' coast. 26th, some very fair catches made at Nail Pond and on the west of the Island. In October fish scarce, but with occasional dips in first half of the month; Americans one after another going home. Towards the end of August, United States' cruiser "Osipee" was at Souris and reported two others, "Boston" and "Yantic," on the way to Canadian waters. A foolish riot among some rowdy American fishermen happened at Souris, in which one life was lost.

About 18,000 mackerel taken near North Cape were sent green to Tignish to be there preserved, and probably do not appear in the returns. At North Cape all were taken on hand lines, although it is generally a good seining locality. Only one seine was tried off shore there, but failed to catch and was discontinued early, the seiners forming themselves into crews and continuing to fish with hand lines. None were seined by New London fishermen, all being taken by hook and net, chiefly hook. There appeared to be fish off shore in about 18 fathoms, but the weather was so bad that shore boats could venture out on only a few days. From "tinkers" (small fish) being plenty this fall it is expected there will be good fishing next season. From several points advices are of the same tenor.

There are no means of ascertaining on shore what quantity of mackerel Americans have taken at sea. Scraps of information along coast would indicate that 200 to 250 sail were in the Gulf, and that they took about 30 barrels this year, where in previous years they took 100. The report of the Boston fishmarket of 17th November, winds up its account of the year's transactions in mackerel by saying: "The mackerel fleet of 1888 is now all in but three North Bay vessels belonging to Gloucester. Generally the results of the season have been void of profits to the vessel owners, as well as the fishermen, for the reason that mackerel have been most remarkably scarce. But this has been offset in part by the fact that the few mackerel



the vessels have taken have brought extremely high prices, such as \$25.50 for some of the last North Bay trips, sold out of the vessel. Such a price per barrel is almost unheard of previously in the history of the trade. If a vessel has only a few barrels the money obtained would be considerable, and hence the courage of the fishermen has been sustained."

The usual complaints are rife, chiefly against lobster traps and seines. Annoyance from lobster traps can only be experienced in the earliest part of the season, and should be over about 20th July. As to the outcry against seining, which has this year been particularly loud, there may be something in it. The effect of 250 fast-sailing vessels chasing the fish all day long can well be imagined. Without going into the doctrine of heredity that continual persecution develops a new instinct in animals, even in fish, it would almost seem as if the mackerel of the Gulf are growing more wary and shy. Little else can be expected where the fish schools, wherever found, are instantly broken up and the alarmed fish that escape the meshes make off in wild alarm for miles before they become quiet again. Among these fugitives the hook-and-line fishermen have a poor chance. But the evil is not remediable.

A few years since I strongly urged on our Island fishermen that the time had come to provide themselves with seines for mackerel, for the reason that it was impossible to compete with Americans fishing in our waters, unless provided with the improved appliances the Americans use. It is equally true, now, as then, that to compete, with inferior materials, against fishermen so skilful as the Americans, is to court failure. Our Island fishermen have rapidly provided themselves with seines to the extent of 17,885 fathoms, but, judging from this year's result, it has become a question whether too much dependence has been placed on seining, and too little reliance on the primitive gear of hook and line. From all parts of the Province returns show that the hook-and-liners have this year done better, comparatively, than the seiners.

#### COD HAKE AND HADDOCK.

The quantity of dried fish this year is 51,522 cwt. against 34,655 cwt. last year, an increase of 16,867 cwt.; the figures being cod, 39,062 cwt., and hake 12,460 cwt.; haddock 92,600 pounds, a further increase of 14,300 pounds. The average quality is reported good.

The fishery shows no features differing from former years, excepting in the larger quantity taken, and in the circumstance that the codfishers are annually seeking their supplies farther and farther off shore, which in a manner accounts for the better size and quality, fish of the deep sea being both larger and better than those taken in shallower water. The well-equipped and sea worthy boats of Nova Scotia and New Brunswick, fishing of North Cape district, as also the better class of Island boats, went off to 20 or 27 fathoms to ply the hook and line, which, on our shallow coast, is a long way off land. Fair success rewarded their enterprise. I would set down the catch of the boats from the mainland at 15,000 cwt.,—which do not appear in the Prince Edward Island returns. The number of mainland boats fishing on this coast is variously estimated at from 160 to 200.

Notwithstanding the large take of cod and hake, (which, after all, are the most steadily reliable of our fisheries,) a number of cod fishermen were seduced into the pursuit of mackerel, judging that as the mackerel were scarce prices would be exceptionally high. Such has been the case, yet it is doubtful if these mackerel adventurers have done as well as if they had stuck to codfishing, although it is true that one barrel of mackerel has been nominally worth a quarter of a ton of cod.

In average years the codfishing season lasts about 160 working days, not more, wind and weather permitting. This year fish have been taken, more or fewer, in 180 days, or far into December.

140,000 fathoms of trawls (fixed lines) were set in shallower water around the coast, baiting 280,000 hooks. Reckoning at the usual rate of  $2\frac{3}{4}$  pounds of wet fish



to one pound of dry, the cod and hake fishery this year captured about half a million of fish, besides haddock.

No boneless cod has been put up this season, which is to be wondered at, as the product is neat, clean and convenient, and seemed, at one time, to be growing in demand.

In 1882, acting on the strong recommendation of the late Professor Baird, U. S. Commissioner of Fisheries, some of the Island fishermen tried gill-nets for cod. After a trial which might, or might not, have been sufficiently long, they were given up, for reasons that I have always failed to appreciate. The fact remains that they are no longer in use.

Some of our merchants have received offers from British Columbia to open an eastern trade in the black cod, *Anoplopoma fimbria*, of the Pacific.

#### LOBSTERS.

This year's result has not solved the problem whether a shortened fishing season is itself sufficient to restore the fishery to its former condition. In Annual Report of 1886 it was urged that the Department, in dealing with the lobster fishery, had no longer a question of regulating a legitimate occupation, but of eeking out a ruined industry. The records of this year's fishing support these views.

In the year 1887, the product of the lobster fishing season, nominally from 20th April, but in reality from 10th to 15th of May, to 20th August, equivalent to about eighty-six working days, was 2,009,107 cans.

This year 1888, the product, nominally from 20th April, but actually from 10th to 15th May, to 15th July, equivalent to sixty working days, was 1,446,227 cans; a diminution of 562,880 cans this year, as compared with last, owing to 6,628 fewer traps being set.

The whole period of lobster fishing in Prince Edward Island is covered by about eighteen years. At first only a few hundred cans, afterwards in increasing thousands yearly; 1876 doubled the catch of 1875, and 1877 doubled the catch of 1876, the quantity then reaching 663,900 eans. In 1878, the product rose at a bound to 1,649,800 cans, rapidly increasing until 1881, when the business attained its maximum development in 6,312,865 cans. Thereafter, the fluctuations of the industry have been as follows:

1879	showed	623,025	cans more than previous year.	
1880	do	1,278,225	do more	do (extension.)
1881	do	2,761,815	do more	do
1882	do	1,114,145	do less	do (extension.)
1883	do	1,354,147	do less	do (extension.)
1884	do	489,082	do more	do (extension.)
1885	do	55,534	do more	do
1886	do	772,409	do less	do
1887	do	1,607,673	do less	do
1888	do	562,880	do less	do

The rate of production per trap, as nearly as may be, may thus be estimated :

	No of factories.	No. of traps.	Product per trap.
1879.....	35	52,000	45 cans
1880.....	58	89,000	45 do
1881.....	118	140,000	44 do
1882... ..	130	121,000	43 do
1883.....	88	91,000	42 do
1884.....	97	98,000	40 do
1885 .....	113	123,485	35½ do

From high prices in 1884.

1886.....	130	110,000	33 do
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Several shut down.

1887.....	112	85,343	23½ do
1888.....	79	78,715	18½ do

The traps of some of these years are from wardens' estimate, but 1882, 1885, 1887 and 1888, are from actual count. These figures show that seventy-nine factories this year set within 6,628 traps of 112 factories in last year. They also show that, while the number of traps has varied in different years with the prospects of the market, and the number of factories in operation, the catch per trap has steadily diminished from 45 to 18½ cans per trap. I gather from the statistics of traps and product given in Mr. Venning's report for 1887, that the catch in New Brunswick last year was twenty-two cans per trap.

Size was much the same this year as last, or 6½ to fully 7 lobsters to fill a one-pound can. The number in berry was comparatively few, for the reason (I regret to say) that a considerable proportion of those taken are not adult and too young to continue their species. There is no export of live lobsters from Prince Edward Island. The following shows the decadence in size:

In 1879.....	3	to 3½	lobsters	filled a 1-lb. can
1880.....	3½	4	do	do
1881.....	4	4½	do	do
1882.....	4½	5½	do	do
1883.....	4½	5½	do	do
1884.....	5	5½	do	do
1885.....	5½	6	do	do
1886.....	6	6½	do	do
1887.....	6½	7	do	do
1888.....	7	fully.		

From the above it will be seen that since 1882, after the great fishing of 1881, the fishery has been dying rapidly, with only feeble spasmodic attempts at recovery. Also, it cannot fail to be observed that the deficiency this year is disproportionately small as compared with previous years. With so short a season the deficit ought to have been larger, indicating either that the lobsters were unusually plenty (and there is no warrant for such belief) or that the number of traps set was in excess of the figures given to the public.

From the present small size, twice as many lobsters are destroyed as were a few years ago in producing the same number of cans. Then it would have taken about 6,000,000 of lobsters to produce this year's quantity, whereas it has taken quite 10,000,000. It is evident that, with so small a margin in the number of cans and so large an increase in destruction, it must be a long time, if ever, before the fishery recuperates itself to its former condition,—or, rather, never. It may therefore become a question whether each factory should be licensed to operate only a certain number of traps, and it would be for the packers themselves to decide whether it would pay them to operate with the traps assigned.

In the assignment of traps it would not be overlooked that the bodies of lobsters do not migrate far from their respective deep water haunts, but come in annually to pretty nearly the same place on the shore. Hence it is quite possible that one part of the coast may be completely fished out while another remains comparatively productive. As an instance, Miminigash, Prince County, formerly fairly fished with 1,700 traps, is now harried by 5,000, with the result that the place is ruined as a lobster locality, and would take at least three years' rest to partly recover.

There are minor points connected with the industry that need not be here discussed. Among these is defining the depth of water, not less than four fathoms, in which lobsters may be fished.

Further study of the matter does not modify the opinions expressed in previous reports, namely: that it takes fully three years from the ova before lobsters begin



to reproduce their species; that lobsters of nine inches in clear length are a little over three year old; and that the average of lobster life is eight to nine years—some few giant males of great age, notwithstanding. On this data, if correct, the general theory of lobster protection may be safely based. The practical question narrows itself to the important queries: can the bulk of small lobsters that escape in the fishing season ever multiply so fast as to reach nine inches, despite the annual fishing, and bring the standard back in quantity and dimension to that which existed before the industry was overdone? Or would three years of complete rest so advance the crop, by three years in the scale of age and reproduction, as to bring the small lobsters of to day forward into mature spawning fish in the fishery of 1892?

Closing the lobster season on 15th July liberated the lobster fishermen for the fishing of mackerel, but they found few or none to compensate them for the loss of six weeks' factory wages. This intensifies the cry on their part for a renewal of lobster fishing next year.

Here offering no opinion as to the desirability of continuing the lobster fishery in its present exhausted state, I would suggest that, were it restored to its former condition, it would be advantageous to raise the standard of dimension to *ten clear inches*, as has been done in the United States. At present it is all but impossible in Prince Edward Island to keep the size up to nine inches.

The staff of fishery wardens is altogether too small and too slenderly paid, to keep anything like sufficiently strict watch against undersized lobsters in factories, sometimes scattered over miles distant from the officer's residence. Existing regulations as to supervision therefore prove signally ineffective in practice. For the extra service the wardens have this year been called on to perform they have put in a claim for compensation.

Prosecution of twelve offenders has been made, and fines imposed. The penalties, where there are any effects, are in process of collection.

#### OYSTERS.

Oyster fishing was prosecuted with vigor. According to a proverb among fishermen that a dry summer produces good oysters, the quality has been superior. The market runs in commercial grooves, the shippers supplying the same customers year after year, chiefly in the upper provinces; but were increase of production to take place, new markets would open, the oyster being one of the few articles whereof the supply rarely equals the demand. In 1886 were produced 33,125 barrels; in 1887, say 36,448 barrels, and this year 35,861 barrels. To this add 2,000 barrels used in home consumption. The catch would have been larger but for unsettled weather.

In accordance with directions from the Department, extra care was this year taken to prevent the shipment of oysters in advance of the legal day. Efforts were successful in checking it, but, as usual, an immense rush was made in the earliest days of the season. The first shipment, 440 barrels, was made from Summerside on 18th September, and 1,000 barrels more before the week was out. One consignment of ten barrels was expressed to Quebec on the first legal day to head the market, at an expense of \$25 freightage.

Canada is perhaps the only civilized country in which the oyster fishery, as a national resource, is not carefully developed. The State of New York has just completed a three years' survey of its oyster beds, under the able superintendence of Mr. Eugene G. Blackford. Connecticut has made an exhaustive survey and issued easy and practical regulations for private culture. Delaware, Virginia, and other States, have comprehensive rules. What has been done in France, the Netherlands, Britain, and in a lesser degree in Germany, need not be here mentioned. Suffice it to say that in all the countries named, the Government can lay its hand on any spot of ground suitable for oyster culture, and the public are encouraged to develop the oyster industry both by public and private culture. In Canada it is not so. In Australia oyster planting is being attended to. An English company, crowded for room at home, has even leased the Bay of Aboukir, in Egypt, for a like purpose.



Canada possesses oyster waters quite as extensive as the State of New York. Those New York waters give 7,000 oystermen a permanent living, and a capital of \$6,000,000 is invested in culture therein. In the whole of Canada no one man makes his whole living from oysters, but less than 1,000 men give themselves occasional employment in oyster catching, in a perfunctory kind of way, and the total annual product, at \$3 per barrel, is no more than \$187,580, of which Prince Edward Island provides \$109,324.

The point designated as the duty of Mr. Blackford, the New York superintendent of oyster culture, were, first, to survey the oyster territory of the State; second, to designate and set apart the natural beds of oysters; third, to ascertain the owners and condition of all artificially planted beds; and fourth, to survey and definitely locate artificial beds. These are the identical points that Canada, sooner or later, will have to attend to. I venture to offer these suggestions for the reason that Prince Edward Island contributes considerably more than one-half of the entire Canadian catch, and hence has an interest in the development of our oyster resources larger than any other Province.

That the oyster fishing in Prince Edward Island is in a deplorable state,—overfished in places and in other places not producing enough,—there is no doubt. There are no regulations whatsoever, excepting a close season from 1st June to 15th September, to prevent the ultimate ruin of the beds, as they are open to be fished by everybody, and private culture has not been encouraged. Reckless fishing and continued shell-digging threaten a ruin to the oyster fishery similar to that which, from overfishing, has befallen the lobster industry. With the present demand new adventurers from distant parts of the Province and even from the mainland, are crowding to the beds and carrying off large quantities, not included in official returns. For instance, fifteen schooners from Nova Scotia, bringing their own men, made descents on Orwell Bay this year and last, leaving the beds nearly exhausted. Finding it pay, others will flock in, regardless of the future of the fishery. It is time such profligate misuse of public resources should be checked.

Scientists believe that, quite apart from over-fishing the oyster beds in the Gulf of St. Lawrence are perishing from natural causes, chiefly geological, and that, as these causes continue, the mollusca in the Gulf will become extinct. In this view I agree. It accounts for the vast deposit of oyster shells, sometimes many feet in depth, found today where no live oysters are. The process of dying out is very slow but none the less sure. No more forcible argument could be found in favor of artificial planting and culture. Every natural oyster bed perishes, after a lapse of time, from the necessities of its own growth, its increases in height and diameter, the oysters in the interior of the mass are deprived of air, and are smothered. When the bed reaches the ice level, the top perishes from cold, so that, practically, a natural bed of even moderate size, is merely a core of dead shells with a thin layer of live oysters outside. The reproduction of an oyster bed is by throwing off glutinous spat in an ever increasing radius, but it is apparent that unless the ground around such bed is clean and of sufficient consistency, the spat perishes and the bed becomes extinct. Such conditions of oyster life cannot exist where the ground is cut up by trenches and filled with the slime of mud digging.

Nevertheless, the machinery for a complete organization of this most important fishery is ready to the hand of the Department. All that is wanted is: 1. To reserve certain natural beds for fishing by the public; 2. To offer liberal encouragement for full development of the fishery under private culture; 3. It might not be necessary, but power is provided for Government to plant new beds and replant old ones; all which machinery to be operated, of course, under competent supervision. Sections 4 and 21-4 of the Revised Fisheries Act, gives the Minister power to grant leases for culture and license for fishing; sections 14, 15, 21, 6-to protect the same; and section 21-4, to plant, transplant or re-stock exhausted fisheries. Hitherto these provisions have been a dead letter. Several applications have already been made for leases for culture, which applications are on file in the Department.

Natural oyster beds owe their location to the chances of accident, especially of tides. Spat is carried to a distance and there deposited. Consequently large stretches of suitable bottom may be passed over by the mere turns of chance. It is these suitable blank locations that private culture is intended to utilize.

The breeding of oysters artificially is one of the recognized industries of the age. Astonishing results have been attained in the hands of private culturists. The capital required is comparatively small, the time of expectancy is short, and the crop in three or four years is as sure as anything can be that depends on the elements. I do not see any necessity for jealousy between the fishers of public beds and private planters. Such has not arisen in other countries, and there is in reality little room for a collision of interests.

The revival of the oyster fishery does not offer the same difficulties that are met with in other fisheries. It resembles more an agricultural process: the seed is sown on a prepared soil, the crop is attended to and cultivated when growing, and in four years the harvest is reaped. The oyster plant is perennial and lives to a great age. I have before me an oyster shell from Curtain Island, Hillsborough Bay, ten inches in length and showing over forty annual layers of shell. Once established by artificial culture the supply might be made practically inexhaustible, inasmuch as oyster enemies, especially starfish, are comparatively few in these waters. Oysters in Prince Edward Island are taken only in shallow bays or in the tidal creeks from one to six fathoms, and such tidal water is not included in land grants, and hence under the jurisdiction of the Crown. In the present unsettled state of the fishery no one will risk the planting of private beds, as it is doubtful if either the law or custom of the country would protect them.

The leasing of areas for private culture would be a check, however imperfect, to the extinction of natural beds from natural causes, for the reason that they would throw off their surplus of free floating spawn and thereby make the natural beds more likely to be impregnated. The first part of lessees' enterprise in artificial culture would be to level the ground and have it paved with materials that would catch a considerable share of the floating spawn. Were it further made imperative that no shell-digging be allowed within a given distance of surveyed and officially recognised beds, the evil would be curtailed as far as it is possible to be. Other advantages to the public beds from the establishment of private culture will present themselves on consideration.

In this Province the requirements for successful oyster culture, namely, sheltered bays and estuaries with sound bottom and the suitable degree of salinity, are everywhere in the three counties, and oysters could be readily planted. Cardigan Bay, King's County, and the estuary of Winter River, Queen's County, are especially well adapted for plantations. Some few favored localities are as favorable for culture—if planted with proper seed—as the far-famed English coast of Kent.

In regard to further extending the close season, the following figures may be of use. Summerside is the main port of shipment, sending away two-thirds of the entire catch, but from other ports shipments are also made to the markets of St. John, N.B., Quebec, Montreal and other places, chiefly in the Upper Provinces. Supposing the fishermen get to work, from 5th to 15th May, they can meet the spring demand, at a high price, say 1,000 barrels. Epicures would perhaps suffer more than the fishermen were spring fishing stopped. From 15th September, when the fishery re-opens, to 30th September, about 8,000 barrels are shipped. In October, say 13,000; in November the same, November being the month in which supplies are laid in for winter. To cut off November would therefore be inconvenient, commercially. In December a few hundred barrels will cover shipments. According to appearance, the fishery had best be amended by strict regulation during the fishing season, rather than by shortening the time of fishing. It is, however, a matter for farther consideration.

Other items present themselves in connection with the public fishing. Such are more clearly defined duties for the Wardens; a definite legal size of oyster; the absolute prohibition of fishing through the ice; the licensing of oyster boats; the selection



of certain landing places on bays, where only oysters may be brought ashore, so as to bring them under the supervision of the Wardens, and, generally, a uniform superintendence of the fishery.

#### OTHER FISH AND FISH PRODUCTS.

As is usual, a quantity of halibut was taken in codfishing. The deeper the water the better chance of taking this fine fish. Quantity about four and-a-half tons, cod fishers having taken them far off shore.

Shad are a rare fish in these waters; none captured this year. Five hundred and ninety-five barrels of alewives.

As smelts do not come in until after the 1st of April fishing was virtually prohibited, to the great discontent of the lovers of the delicacy. Smelts are not exported from this Province.

Eels have become a growing article of export. The destruction of eels is the salvation of trout and salmon rivers, as they feed largely on trout and salmon spawn. From time immemorial they have been speared by torchlight on the mudflats in fall. As torches and spears in boats are a temptation to seek for breeding salmon on the shallows, I would recommend that lights be prohibited in eel-spearing after the 1st of November in each year.

Squid in fair quantity, chiefly around North Cape. Clams, although abundant, are too expensive for bait.

Fish oil does not by any means show the quantity that the catch of fish would warrant. Product only 18,333 gallons; it should have been as much again.

Tongues and sounds are likewise less than they should be. I believe that a considerable quantity, that does not appear on the record, is used by the fishermen in petty trading,

The column headed "Fish guano" is a blank so far as this Province is concerned. No condensed manure is manufactured. Large quantities of lobster *débris* are carted away by farmers, and in the absence of lime are valuable as a fertilizer. It is difficult to correctly estimate the quantity. I have put it down at close on 3,000 tons, or 11,580 barrels. There is ample room for the establishment of dry manure factories at almost any central point along the coast.

#### RIVERS AND STREAMS.

The increase in the number of American anglers who have visited the island the past summer, and some of whom made a long stay, is a sufficient proof of the good condition of the streams. These anglers make a favorable report of the catch. Angling is the main recreation of the Prince Edward Islanders themselves. There are few among the busy classes who do not spare a day or two in the season for fishing. Consequently some of the haunts most easily reached are a little overfished—Miminigash, for instance. On the whole, there is no decrease in the number or size of trout. No trout are exported. The month of December should be added to the trout close season, as the fishing with bait in that month is a pretext to cover netting. Were December added it would practically mean a close season from 1st October until the streams thaw in spring.

All our rivers are too small, shallow and warm for salmon. Within the past two or three years, however, several clean salmon have been observed, although none have been caught. The fish have been especially observed in the Morell River. A full arrival of breeding salmon is reported this fall in the Dunk, Tyne, Trout, Tryon, Winter, Morell, Marie and other rivers. There is no regular salmon fishery around the coast of this island, but there ought to be, especially along the stretch from St. Peter's to East Cape.

With regard to sawdust—to persons accustomed to the extensive lumbering and sawing establishments on the mainland the word "sawmill" as applied to Prince Edward Island, conveys altogether an erroneous impression. About 340 sawmills



are in the province, and almost all of small size, and built before Confederation. With few exceptions they are worth but a few hundred dollars each. Almost all were at first erected to supply the surrounding sparse settlements on retired streams where the lumber grew thickest, but as settlement increased wood became scarcer, and a number of the mills are dying out for want of it. Sawdust in the streams is therefore, a decreasing, instead of an increasing evil. The nuisance is reduced as nearly to a minimum, as could reasonably be expected. Where new mills are erected due provision for the disposal of rubbish is enforced.

Since salmon hatching on Dunk ceased, and the hatchery dam being carried away by freshet, permitted salmon to run up the whole length of the river, salmon poachers, who had been previously well kept under, having become daring, have formed themselves into an armed gang that has already come into collision with the river officers. Additional assistance has been supplied, and the shameful destruction of breeding salmon stopped.

#### IN CONCLUSION.

I would beg to report the ready obedience and assistance I have received from all the Fishery Wardens. Three wardens have been superseded for cause. There are now three vacancies requiring to be filled up in spring, namely: one at Egmont Bay, Prince County; one at Orwell, Queen's; one at Cardigan, County of King's; and there should be a Warden for St. Peter's Bay district from Morell.

I have the honor to be, Sir,

Your obedient servant,

J. HUNTER DUVAR,

*Inspector of Fisheries for P. E. I.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men employed, &c., in the

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						
	Vessels.				Boats.			Nets.		Seines.		Trap.	Mackerel, barrels.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.		
<i>Prince.</i>			\$			\$		\$	\$				
Cascompeque Bay to Kildare													
Capes .....	7	355	11000	90	37	3000	103	1545	600	1500	4800	.....	1550
Kildare to Sea Cow Head, including Tignish.....	7	243	4500	78	50	1850	180	600	200	1225	2800	1, \$800	600
Sea Cow Head to Skinner's Pond .....					75	2000	270	2800	1400	170	250	.....	465
To Black Pond.....					53	1855	160	1405	650	815	800	.....	456
Black Pond to Big Mimini- gash.....	3	134	2600	75	70	3500	280	1800	500	1280	1640	.....	1300
Little Miminigash to Seal Point, Lot 7, including Campbellton.....	6	189	3400	75	16	480	48	900	130	1000	1500	.....	312
From Seal Point, whole of Lot 8.....					14	500	40	800	180			.....	150
Lot 8 to Egmont Bay.....					10	200	30	600	300	170	400	.....	26
Egmont Bay to 15 Point.....					16	480	36	3600	1800	250	350	.....	47
Summerside District of Rich- mond Bay, including Ham- ilton .....												.....	
Indian River, including Mal- peque .....					12	340	36	300	150			.....	54
Lot 12, shore.....					10	335	28	500	300	80	140	.....	20
Grand River, Lot 13.....					5	250	20	250	60			.....	80
Graham Head, Lot 26, to Cape Traverse.....					10	300	20	60	20			.....	20
Cape Traverse to Queen's County Line.....	1	29	1000	5	4	160	8	120	60			.....	30
Rivers and Estuaries, viz.: Dunk, Tyne, Trout, En- more, Pierre Jacques, and others .....												.....	
Totals .....	24	950	22500	323	382	15250	1257	15280	6350	6490	12680	1, \$800	5110

the Fisheries. Quantity and Value of Fishing Material, Kinds and Quantities of Fish,  
Province of Prince Edward Island, for the Year, 1888.

KINDS OF FISH.													FISH PRODUCTS.		VALUE.	
Mackerel, in cans.	Herring, barrels.	Alewires, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake, cwt.	Haddock, lbs.	Halibut, lbs.	Sea Bass, lbs.	Trout, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Manure, barrels.		
1920	2000	.....	400	30	.....	.....	.....	.....	100	20	50	120591	300	1000	48,831	32
1500	700	.....	800	17	600	.....	1000	.....	.....	.....	.....	144064	1600	1000	36,277	68
.....	3000	30	290	.....	350	.....	1500	.....	700	15	.....	65040	1250	800	30,744	80
.....	3040	10	2100	17	900	.....	.....	.....	.....	.....	.....	124800	400	1000	46,851	00
24000	1300	.....	180	.....	250	5000	2300	700	1500	18	.....	53077	200	400	36,751	24
4900	500	.....	200	.....	50	.....	250	.....	500	2	.....	28887	300	100	11,999	44
.....	400	.....	80	.....	50	.....	.....	.....	200	5	.....	42816	50	200	9,697	92
.....	150	6	.....	.....	.....	.....	.....	.....	2500	4	.....	.....	.....	.....	1,307	00
.....	1250	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25152	.....	100	8,773	24
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20950	.....	.....	.....	62,850	00
.....	300	.....	2400	15	400	.....	.....	.....	1800	25	2800	54724	300	400	29,076	88
.....	1000	.....	120	2	50	.....	200	.....	.....	.....	1100	16944	60	100	10,427	28
.....	1500	.....	900	.....	.....	.....	.....	.....	.....	20	4000	.....	186	.....	23,074	40
.....	600	.....	.....	.....	.....	.....	.....	.....	500	10	.....	38880	.....	180	7,605	60
600	60	10	12	.....	15	.....	.....	.....	6000	5	.....	21120	15	150	4,180	40
.....	.....	.....	.....	.....	.....	.....	.....	.....	15000	205	50	.....	.....	.....	3,700	00
32920	15800	56	7482	81	2665	5000	5250	700	28800	329	28950	736095	4661	5430	372,148	20



## RETURN showing the Number, Tonnage and Value of Vessels and Boats

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				
	Vessels.				Boats.		Nets.		Seines.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.
Queen's.		\$			\$			\$		\$	
East Line of Prince County to New London.	3	80	2300	30	18	1350	50	1000	250	680	1000
New London to Cavendish.....					5	350	22	400	150	150	300
Ulifton.....											
Rustico District.....	1	30	300	5	48	1350	228	2500	1000	1760	3520
New Glasgow.....					12	720	30	300	100		
Wheatley River to Rustico Island.....	1	45	2000	5	5	600	20	120	50	150	300
Covehead & Tracadie to King's N.E. Line.....					48	2000	144	2730	1865	600	1800
King's S.W. Line to Point Prim.....	8	200	4500	160	16	450	23	800	200	200	400
Pownal Bay and Seal River.....					4	160	12	80	30		
Orwell District.....					4	600	4				
Hillsborough Bay & Charlottetown District											
Argyle Shore.....					4	150	8	500	250		
De Sable to Prince S.E. Line.....	2	100	2000	12	6	300	12	100	50	115	230
Rivers and Estuaries, viz.: North, East, West, Johnston's, Hope, Winter, Ver- non and others.....					7	250	25	80	40		
Totals .....	15	455	11100	212	177	8280	578	8610	3985	3655	7550

## engaged in the Fisheries &amp;c.—Prince Edward Island—Continued.

KINDS OF FISH.											FISH PRODUCTS.		VALU.	
Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake, cwt.	Haddock, lbs.	Trout, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish oil, gallons.	Fish manure, barrels.	\$ cts.
150	600	50	880	50					2	67600	500	1000		17,427 00
54	120		50					200	8	120				1,490 00
1250	1500		2250	50	5000			100	100	31200	200	400		460 00
120	150		9000	1000	5000	1500		20			90	20		39,174 00
45	120		1200	400	20000	100		150		65232	150	600		42,996 00
460	900		900					8						18,052 84
40	1440	230	80	2	130	400		2		35500	200	200		14,180 00
3	18					400		3		587				7,052 80
4	20					200				2800				1,948 00
								800		11520				8,560 00
30	400					800		4		112320		1000		3,782 40
100	200		400			1000		5		7344		100		16,148 40
														4,981 28
35	100	100	2500	1000		15000	140	2600						25,925 00
2281	1440	4358	150	17260	2	2630	30000	19600	442	6907	330716	1140	3820	202,177 72

## RETURN showing the Number, Tonnage and Value of Vessels and Boats

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				Salmon, fresh in ice, lbs.	Mackerel, brls.	
	Vessels.			Boats.			Nets.		Seines.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.			Value.
<i>King's.</i>			\$			\$			\$		\$		
Queen's County, N. E. Line, to Morell .....					14	550	42	2410	800			863	223
Morell, including St. Peter's Bay .....	7	340	5100	85	15	450	29	1970	686	300	500	700	457
Schooner Pond to Naufrage..					60	800	180	3000	800	3350	1800		420
Lots 46 and 47, including North and South Lakes....					165	4900	495	7620	2500				2475
Souris District .....	6	250	15000	85	90	2500	173	8000	4000	2100	4000		509
Bollo, Fortune, Howe and Boughton Bays, including Islands .....					100	2800	300	6000	3000	600	1200		350
Bay Fortune .....					28	500	84	500	250	480	700		82
Georgetown to Murray Harbor .....	1	45	1500	6	25	750	75	250	120	160	300		200
To S. E. Line of Queen's.....	13	325	16500	78	60	2400	180	2000	1000	450	900		100
Montague .....	3	90	4000	21	30	400	90	350	100	100	250		250
Oardigan Bay .....	1	50	1400	6	28	800	80	310	100	200	400		200
Rivers and Estuaries, viz.: Morell, Midgell, Marie, Brundenell and others.....													
Totals .....	31	1100	43500	281	615	16850	1728	32410	13356	7740	10050	1563	5257



## engaged in the Fisheries, &amp;c.—Prince Edward Island—Continued.

KINDS OF FISH.											FISH PRODUCTS.		VALUE.
Herring, brls.	Alewives, brls.	Cod, cwt.	Cod Tongues and Scales, brls.	Hake, cwt.	Haddock, lbs.	Halibut, lbs.	Trout, lbs.	Eels, brls.	Oysters, brls.	Lobsters, cans.	Fish Oil, galls.	Fish used as manure, brls.	
													\$ cts.
315	143	890	1	10	1200	150	900	10	4	23000	162	100	12,170 90
250	100	1670	...	20	.....	800	.....	.....	.....	30288	1700	100	19,649 56
300	3	225	.....	800	.....	.....	.....	.....	.....	56400	40	200	18,497 50
2630	125	3200	7	550	4000	2500	5000	20	...	55600	3300	200	72,479 50
500	.....	2200	.....	2200	.....	.....	.....	.....	.....	30816	2500	150	31,872 92
6000	.....	360	.....	300	.....	.....	800	200	...	50400	500	1000	40,718 90
230	.....	186	.....	30	1000	.....	1000	20	...	6720	100	80	4,096 40
1500	.....	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,000 00
250	.....	5000	75	3200	50000	.....	400	120	...	126192	4100	1000	56,573 04
350	8	75	2	25	600	.....	1400	40	...	.....	80	.....	6,202 00
400	10	50	...	30	800	.....	1000	6	...	.....	50	.....	5,177 00
.....	.....	.....	.....	.....	.....	.....	16000	750	...	.....	.....	.....	9,100 00
12725	389	14320	85	7165	57600	3450	26500	1166	4	379416	12532	2830	287,536 82

RECAPITULATION showing the Number, Tonnage and Value of Vessels engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men Employed, &c., in the Province of Prince Edward Island, for the Year 1888.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.										FISHING MATERIAL.				KINDS OF FISH.					VALUE.
	Vessels.				Boats.			Nets.			Seines.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.									
Prince .....	24	960	\$ 22,500	323	382	\$ 15,250	1,257	15,250	6,350	6,480	\$ 12,680	9	32,920	15,800						
Queen's .....	15	455	11,100	212	177	8,280	578	8,610	3,938	3,655	7,550	2,231	1,440	4,358						
King's .....	31	1,100	43,500	281	615	16,850	1,728	32,410	13,366	7,740	10,050	2,237	...	12,725						
Totals .....	70	2,505	77,100	816	1,174	40,380	3,563	56,300	23,691	17,885	30,280	12,649	34,360	32,883						

COUNTIES.	KINDS OF FISH.											FISH PRODUCTS.			VALUE.
	Alewives, barrels	Cod, cwt.	Cod Tongues and Souds, barrels.	Hake, cwt.	Haddock, lbs.	Halibut, lbs.	Sea Bass, lbs.	Trout, lbs.	Bels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons	Fish used as manure, barrels.		
Prince .....	56	7,482	81	2,635	5,000	5,250	700	28,800	329	28,950	736,095	4,661	5,430	\$ 372,148	20
Queen's .....	150	1,260	2	2,630	30,000	...	...	19,600	442	6,907	330,716	1,140	3,320	202,177	72
King's .....	389	14,320	85	7,165	57,600	3,450	...	26,500	1,168	4	379,416	12,532	2,830	287,536	82
Totals .....	595	39,062	168	12,460	92,600	8,700	700	74,900	1,937	35,861	1,446,227	18,333	11,580	* 15,000	00
														876,862	74

\* Fresh Fish for Home Consumption, 15,000 families; including 400 barrels of Fall Herring taken after Returns were closed. † 1 Trap.

## RECAPITULATION.

YIELD and Value of the different Fisheries in the Province of Prince Edward Island, during the Year 1888.

Kinds of Fish.	Price.	Quantity.	Value.	Increase.	Decrease.
				Quantity.	Quantity.
	\$ cts.		\$ cts.		
Salmon, fresh.....	Lbs. 0 20	1,563	312 60		97
Mackerel.....	Brls. 15 00	12,648	189,720 00		11,379
do canned.....	Lbs. 0 12	34,380	4,123 20		14,240
Herring.....	Brls. 4 00	32,883	131,532 00		5,991
Alewives.....	Brls. 4 50	595	2,677 50	228	
Cod.....	Cwt. 4 00	39,062	156,248 00	12,640	
Cod and Hake Sounds.....	Brls. 10 00	168	1,680 00	14	
Hake.....	Cwt. 4 00	12,460	49,840 00	4,227	
Haddock.....	Lbs. 0 04	92,600	3,704 00	64,300	
Halibut.....	Lbs. 0 10	8,700	870 00		950
Sea Bass.....	Lbs. 0 06	700	42 00	700	
Trout.....	Lbs. 0 10	74,900	7,490 00		300
Eels.....	Brls. 10 00	1,937	19,370 00	873	
Oysters.....	Brls. 3 00	35,861	107,583 00		587
Lobsters, canned.....	Lbs. 0 12	1,446,227	173,547 24		562,880
Fish Oil.....	Galls. 0 40	18,383	7,333 20	508	
Unmanufactured Fish Manure.....	Brls. 0 50	11,580	5,790 00		
			861,862 74		
Fresh Fish for home consumption of 15,000 families, including 400 barrels of Fall Herring, taken after Returns were closed.....			15,000 00		
Total Value of P. E. I. Fisheries in 1888.....			876,862 74		
do do 1887.....			1,037,425 84		
Decrease in 1888.....			160,563 10		



## ESTIMATE

Of Capital Employed in the Fisheries of the Province of Prince Edward Island in the Year 1888.

	Value.	Total.
<i>Sea Fisheries.</i>	\$	\$
70 vessels, aggregate tonnage 2,505.....	77,100	
1,174 boats, sea, of 15, at 30 feet keel; small, 10, at 14 feet.....	40,380	
56,300 fathoms of nets.....	23,190	
17,885 do seines.....	30,280	
140,000 do trawls.....	25,000	
Say 350 stages, curing houses, presses, &c.....	20,000	
1 trap.....	800	
		216,750
<i>Oyster Fishery.</i>		
350 oyster boats and rakes.....		10,000
<i>Lobster Fishery.</i>		
79 factories in operation this year, with their standing outfit at \$1,000 each...	79,000	
And operating 78,715 traps, at 60 cents.....	47,229	
To which add 33 factories not in operation, at \$800.....	26,400	
		152,629
<b>Total</b> .....		<b>379,379</b>

## APPENDIX No. 5.

## QUEBEC.

## REPORT OF THE FISHERY OFFICER IN CHARGE OF THE GOVERNMENT VESSEL "LA CANADIENNE," ENGAGED IN THE PROTECTION OF THE GULF ST. LAWRENCE FISHERIES, FOR THE YEAR 1888.

GASPÉ, QUE., 31st December, 1888.

The Honorable CHARLES H. TUPPER,  
Minister of Marine and Fisheries.

SIR,—I beg herewith to submit a report on the fisheries of the Gulf Division, Province of Quebec, for the year 1888, along with synopses of the reports of local officers. The return shows a slight increase in the aggregate catch, amounting to \$8,991.38.

The season of 1888 has been one of almost unprecedented severity, and although the yield was slightly better than for the previous season, yet the catch has not been an average one. Cod fishing only began towards the middle of June, and as is always the case during rough weather, both fish and bait kept off shore.

## SALMON.

The take of salmon was an average one, being 889 brls. salted and 445,107 lbs. fresh, as compared with 770 brls. salted and 484,321 lbs. fresh in 1887; as has been the case during recent years, the fishery was late in opening. Owing to the freshets in the river, the nets in many localities could not be set before the first week of June, and there is no doubt that before that date a large body of fish had passed up the rivers. Had it not been for the abundance of the catch on the North Shore, the showing for the salmon fishery would have been poor, as the returns from the Ristigouche and New Richmond subdivisions were much below the average. By counties the yield for the past two seasons is as follows:—

	1887.	1888.	Decrease.
<i>Bonaventure County.</i>			
Salmon, salted..... Brls.			
do fresh, in ice..... Lbs.	203,772	140,563	63,209
<i>Saguenay County.</i>			
Salmon, salted..... Brls.	46	38	8
do fresh, in ice..... Lbs.	114,932	108,866	6,076

	1887.	1888.	Increase.
<i>Saguenay County.</i>			
Salmon, salted..... Brls.	724	851	127
do fresh, in ice..... Lbs.	165,581	195,678	30,097

The net fishing season was short, in many places not lasting more than two weeks; the weather being rough the capelin kept off shore, there was, therefore, no inducement for the salmon to remain in the estuaries, and they at once went up the river.

Angling, as a rule, was good during the earlier part of the season as the water was high and not too clear; towards the middle and end of July the constant dry weather brought down the rivers and left the water too bright for successful sport.

#### COD.

Cod fishing began about the middle of June, and was frequently interrupted during the summer season by gales of wind, particularly on the 20th of June and 5th of July, on each of which occasions the Baie de Chaleur was visited by a tornado, proceeding from west to east, when a number of the boats fishing on the Miscou bank were upset, and several lives lost. These accidents made the fishermen nervous, and as a natural consequence, on the least appearance of wind, those at sea made for shore, and those on shore would not venture out. It is calculated that in this way fully one-fourth of the fishing season was lost.

I would here again take the occasion of calling attention to the necessity there is for affording greater shelter to fishermen, particularly along all that part of the coast from Gaspé Bay to L'Anse à Gascon. At the most central localities shelter should be provided, under which the boats could harbor in rough weather. As things are at present all fishing boats have to be beached and hauled ashore at the first appearance of a storm. To permit of their being thus beached and handled, they have to be built so slight and small, that they cannot venture out or remain at sea in rough weather. If it were possible to use larger, and stronger boats, they could remain at sea, or even proceed to sea in any weather short of a gale. Such vessels could also remain on the fishing grounds for a week or more at a time, or until they had secured a fare, instead of being obliged to go back and forth daily as is now the custom. All thoughtful and intelligent fishermen believe that the money now distributed almost indiscriminately as a fishing bounty, would do infinitely more good to them if it were spent in providing the shelter they now stand so much in need of.

The fall season has also been one of the roughest known, and the fishery made in September and October has not amounted to half a catch. Cod were, however, plentiful, and in moderate weather the boats did well.

On the Labrador the fishery was better than it has been for some years, and as Mr. Whitely states in his report for the Bonne Esperance subdivision, "coming after several poor fishing seasons, it has inspired us with renewed hope, and next season operations will be entered upon cheerfully."

#### LOBSTERS.

The returns show a very considerable decrease, the total catch for 1887 being 857,098 lbs., as compared with 551,287 lbs. for this season, or a decrease of 305,811 lbs. for 1888. This falling off cannot all be attributed to actual scarcity of fish, but rather to the late date at which the season opened, the end of May, and to the shortening of the open season from the 20th of August to the 15th July. A number of factories were not opened, and the number of fishermen was very much curtailed, as many who had formerly engaged in lobster fishing, did not care to risk fitting out for it again under the shortened period. As a rule, I find the large cannery quite



pleased with the action of the Department in curtailing the fishing season; there can be no doubt that much good will result from this action, which will lead to the closing of many of the smaller establishments, and it was always among these small cannerymen that I found the disposition to encourage their fishermen to take small lobsters.

I am informed that several canneries will be established on the Labrador during the coming season, *these will be run by people who are giving up the industry in the Maritime Provinces.* I have no fear of their exhausting the lobsters to the same extent on the north shore that they have on the south, as owing to the boldness of the north coast, and the greater depth of water, I believe that lobster fishing must be carried on there under so many disadvantages that it will never be profitable. All those who have tried it so far have, after a couple of seasons, abandoned the coast.

#### SEALS.

Seal hunting on the ice in March and April was again a failure, and from exactly the same cause as last season, the prevalence of strong easterly winds, packing the ice so that vessels could not penetrate to the seals until the young were old enough to take to the water. Skins continue to advance in price, and there has been lately quite a sharp advance in oil.

#### HERRING.

Spring herring were abundant all over the Gulf, but were only taken for bait and manure. The following French vessels called at the Magdalen Islands early in May, and took cargoes of spring herring to St. Pierre-Miquelon for bait:

Brig "80," Captain Dauphine.....	600 brls.
" "Madeline," Captain Ruel.....	500 "
Schooner "Albert," Captain Ammonium.....	300 "

These vessels bought their herring from the people at from 36 cts. to 40 cts. per barrel. Sixteen schooners from Newfoundland also called and loaded with herring, which they seined for themselves. Their cargoes were also taken to St. Pierre and sold to the French. Several schooners belonging to the Magdalen Islands also took over to St. Pierre about one thousand barrels, which they sold to the French fishermen at from \$1.75 to \$2.00 per barrel. A number of United States and Nova Scotia schooners also called and procured bait; it is believed that though these last cleared for the banks' fishing, yet some sold the herring they had taken to the French. The French vessels had a considerable quantity of liquor on board and it is reported that a good deal was sold to the inhabitants of the Magdalen Islands. The masters of the French vessels reported that next season about twenty or thirty of their vessels from St. Pierre would call at the Magdalen Islands for bait.

It becomes a question, in view of the fact that *the French Government puts a prohibitive duty on our fish*, whether we should allow their vessels to purchase bait in our ports free from any export duty. The Newfoundland "Bait Bill" will also be of very little service if vessels from Newfoundland can evade it by taking bait freely from our ports to the French fishermen at St. Pierre.

Summer and fall herring were scarce. I do not attribute this to any decrease in the quantity of herring; it was most likely due to the constant occurrence of gales which kept the schools off shore.

The Esquimaux Point fleet did well in the Straits, and Labrador and fall herring being scarce, their cargoes sold well in Quebec, the price averaging about \$5.50 per barrel.

Many of the vessels from Esquimaux Point were ordered off the west coast of Newfoundland by the French cruisers, and prevented from fishing along that shore. It seems rather an anomalous state of affairs, that fishing vessels from Canada, flying British colors, should be driven out of the inshore waters of a neighboring British Province by foreign men-of-war.

## MACKEREL.

Mackerel failed all over the Gulf division, except at the Magdalen Islands, where the take was better than it has been for some years. Several cargoes were shipped to Boston, U.S., and one of the shippers informed me that his cargo fetched \$22 per barrel; after deducting duty and all other charges, this would yield him at least \$18 per barrel, clear.

A fleet of twenty sail of United States mackerel schooners visited Gaspé Bay on the 4th of July. They had run over from the north side of Prince Edward Island in search of mackerel; finding that none had been seen off the Gaspé coast, they returned south next day. I met them outside and accompanied them into the Basin, when I boarded them all. Boarding statements were furnished to Captain Gordon, by whom, no doubt, the returns will be forwarded.

## HALIBUT.

The halibut fishery continues to improve; 104,948 pounds having been taken this summer, as against 81,347 pounds in 1887. As the facilities for shipping this fish fresh to market are developed, the catch will increase. At present our fishermen do not go in for it as a distinct fishery, and nearly all the halibut taken is caught by cod fishermen.

## BAIT.

Bait fish were plentiful in the spring, but from July until the close of the season all kinds of bait were more or less scarce. This was entirely due to stormy weather, as it is a well-known fact that, when there is any continued swell on shore the bait keeps off.

The fishery regulations were well observed; the general enforcement of the Sunday close time was distasteful to most salmon net fishermen along the coast away from the rivers, as they had never been compelled to tie up before, yet I know of no instance in which the new regulation was intentionally disregarded.

I beg to append synopses of the reports of the local officers, together with the usual statistics.

I have the honor to be, Sir,  
Your obedient servant,

WM. WAKEHAM,

*Officer in command of the Fishery Protection steamer "La Canadienne."*

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## SYNOPSIS OF REPORTS OF FISHERY OVERSEERS.

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## RISTIGOUCHE SUB-DIVISION.

*Mr. Verge* reports the quantity of salmon caught this season in the estuary of the Ristigouche, as less than last year by 24,747 pounds, of which 5,133 pounds are on the Quebec side of the bay.

He does not attribute this shortage in the catch to any failure of salmon, but to delay in getting out the nets, and to their having been taken up uncommonly early, especially in the lower part of the estuary.

The smelt fishery is not prosecuted with much vigor; those who have tried it have not found out the grounds over which the smelt move during the legal time of fishing. The ice also is a drawback during the fishing season as it moves from day to day; when it takes permanently the best fishing time is over. Just now (18th September) there is a fine run of smelt large and firm, but they are only taken with hook and line. The Sunday close time was well observed.



## NEW RICHMOND SUB-DIVISION.

*Mr. Cullen* reports for this season a decrease in the salmon catch of 47,626 pounds. He believes that the nets were put out too late, and that the fishermen lost the first run. Salmon were plentiful in the rivers Cascapedia and Bonaventure. The cod fishery decreased by 410 cwt.; this is due to the fact that as the people devote more attention to agriculture there are fewer fishermen, and most of those who usually hire out as fishermen now find steady work along the line of the Baie des Chaleurs railway.

There was only one lobster canning factory in operation this season; they put up about the same quantity as last year.

Mackerel fishing was again a failure, only 12 barrels having been taken. Spring herring were very abundant, and any quantity might have been taken, but as there is no market for this fish, they are only taken for manure. A large quantity of flat fish was taken in Nouvelle, Carleton and Maria Bays, this fish makes much better manure than herring. Bait was scarce, owing to the prevalence of high winds, which always keeps it off shore. Cod fishermen at Bonaventure and Paspebiac did well in November, and at this present date (4th December), they are still doing well. Salmon fishermen respected the Sunday clause, though they grumble greatly about it.

## PORT DANIEL SUB DIVISION.

*Mr. Phelan* reports more than an average catch of salmon; the fishing began on the 25th of May and many nets were up by the 20th of June; the demand for fresh salmon was greater than last year and the price continues to rise. Cod fishing began on the 15th June, the catch shows a slight increase over that of last year, the summer fishing was small, but in the fall fish were abundant. Cod do not come into the bay as early as formerly, in fact the summer fishing appears to be on the decline. At the end of November the fishery was still being actively prosecuted and fish were abundant.

Lobster fishing commenced on the 15th May, and closed on the 14th July. The number of pounds canned was about the same as last year, the lobsters were larger and fully as plenty; packers paid 50 cents per 100 pounds. There were not as many fishermen as in former years. The following table shows the gross weight of lobsters taken, and the number of pounds canned during the past two years. Almost the same amount of meat was obtained this season from a much smaller gross weight of lobsters:—

	Gross weight of Lobsters taken. lbs.	No. of lbs. Canned.
1887.....	145,583	26,811
1888. ....	133,234	26,225

Packers and fishermen are satisfied with the change in the close season.

Spring herring struck on the 15th May, and were taken with nets and seines for some weeks in great quantities, principally for manure. They were never seen so plentiful before. The quantity of herring spawn taken for manure is incalculable,—many thousands of barrels. It is *Mr. Phelan's* opinion, that the use of this spawn for manure should be prohibited. Some pretend to say, that when the spawn is cast ashore it dies, and, no doubt, it does lose its vitality when high and dry for any great length of time, but much of it is ashore to day and afloat to-morrow and, it is not all lost, even if only a small proportion come to maturity, it would be worth the trouble of protection; the remainder would serve as food for other fish.

The summer and fall herring fishery was a failure; so complete was the failure of the fall herring, that people had to import salted herring from Quebec for their winter use. Mackerel did not show at all. No United States fishermen came



into the bay this summer. Capelin were plentiful, but did not remain long. Squid was abundant in August and September. Four seines were licensed for smelts. They began to fish on the 10th of October, but did nothing in November, the weather was too rough for seining. Mr. Phalen has no contravention of the Fisheries Act to report this season.

#### GASPÉ SUB-DIVISION.

*Mr. Vibert* reports salmon fishing began at Gaspé on the 21st of May. The catch was

	Pounds.
Nets .....	103,655
Angling.....	4,870
	<u>108,525</u>

A slight increase over last season's return. The statement of fish taken by anglers is as follows:—

River.	No. of Fish.	Weight, Pounds.
Grand Pabos.....	13	172
Little Pabos.....	44	528
Grand River.....	102	1,653
York .....	66	1,428
Dartmouth.....	26	546
St. John's.....	34	543
	<u>285</u>	<u>4,870</u>

Cod appeared from Newport to Point St. Peter from the 11th to the 15th June. The season was a rough one, frequent storms caused the loss of several lives, and rendered others timid about venturing on the Banks. In this way much time and fish were lost. The autumn months were extremely rough, and the whole season after June was very unfavorable for taking and curing fish. Fishing in Gaspé Bay was very poor, and mackerel was again a failure. On the 4th July twenty United States mackerel schooners came into Gaspé Harbor. They left again next day.

Twenty vessels cleared from the port of Gaspé during the season with cargoes of cod for foreign markets. Two schooners from Gaspé were stranded at Magdalen River in October. The whaling schooner "Admiration" made her usual whaling voyage to Grosse Water Bay. She killed six whales, yielding 2,272 gallons of oil. She encountered unfavorable weather.

Lobsters were not plentiful, and the run was small; 195,957 lbs. were canned at sixteen factories in the sub-division, a decrease of 115,066 lbs. from last year. The quantity of smelts shipped to date, 16th November, was 63,166 lbs. They were scarce in October but became plentiful in November, and were of fine size and quality.

#### MAGDALEN RIVER SUB-DIVISION.

*Mr. Lemieux* reports salmon fishing as being about an average. There are very few nets fished in this sub-division. The cod fishery was better than last year and the fishermen were not disturbed by the white porpoises. The weather was rough during the whole season. Had it not been for this, the catch of cod would have been large, as fish at times were very abundant. Bait was scarce, being kept off shore by the heavy swell.

## STE. ANNE DES MONTS SUB-DIVISION.

Mr. Létourneau reports cod fishery a failure, due in a large measure to the fact that the white porpoises were numerous during the summer fishing season. Towards the fall, porpoises disappeared, and cod became abundant, but the weather was too rough to permit of the prosecution of the fishery, especially as the fishermen of this part of the coast are now badly fitted for fishing, in fact the great majority of them have abandoned fishing as a means of livelihood, and have sought other employment. Only one small net was set at Martin River for salmon, taking three barrels. The other nets were not fished, the owners having arranged with the lessee of the river to discontinue fishing. Fly fishermen did well, salmon being plenty and the water in good order. The following table shows the take of the past four years :

	No. of Fish.	Total Weight, lbs.	Largest Fish. lbs.
1885 .....	109	2,252	30
1886 .....	84	1,659	32
1887 .....	159	2,677	33
1888 .....	206	4,131	39

Herring were not abundant, only enough being taken for local consumption.

## MAGDALEN ISLANDS SUB-DIVISION.

Overseer Chevrier reports the seal fishery again a failure, though it was slightly better than last year, and will make a better return to fishermen as the price of seal oil has gone up. The failure was due to a prevalence of easterly winds, and the consequent packing of the ice. The cod fishery shows a falling off, as compared with last year, of 1,821 cwts. This decrease was altogether due to the extreme roughness of the season. Spring herring were abundant in Pleasant Bay and inside the breakwater at Etang du Nord. They were only taken for bait; a number of cargoes being shipped to St. Pierre-Miquelon. Several French vessels visited the Islands during May, and purchased cargoes of these herring, and as it is impossible to take them so far in a fresh state, they are slightly salted. Mackerel were more plentiful than for some years, and commanded a high price. The lobster fishery shows a decided falling off, as compared with 1887. The statement being—

	Lbs.
1887.....	458,964
1888.....	276,580
Decrease.....	182,384

This decrease is due, firstly, to the season having begun late, 30th May; secondly, to the shortness of the present fishing season; thirdly, to the closing down of a number of factories; and lastly, to the fact that, owing to the shortening of the season, fewer men engaged in the fishery.

## GODBOUT SUB-DIVISION.

Mr. Comeau reports that the fisheries have been poor, and many of the cod fishermen have not fished out the three months necessary to obtain the bounty. A few schools of mackerel were seen in Godbout Bay in July and August. The roughness of the season accounts for the failure in all the fisheries. The fishermen of this section are poorly rigged both in boats and nets, and can do nothing, save in fine or moderate weather.

## MOISIE SUB-DIVISION.

*Overseer Migneault* reports the first salmon taken at Moisie on the 24th May. The catch was good, especially in Moisie River, and on the eastern side of the bay; to the westward and at Ste. Marguerite the catch was poor. Summer cod fishing, in spite of rough weather and frequent fogs, was up to the average; there was no fall fishery. No mackerel were seen off the Moisie sub-division this season. A few Nova Scotia seiners visited Seven Islands Bay, but finding no trace of mackerel, returned at once to the south. In spite of reports to the contrary, there is no distress among the people of Moisie, and all are well provided for the winter, with the exception of one Indian family. In this case the father being ill, and unable to hunt, could not procure the usual advance. They will, however, be provided for by the Hudson Bay Company.

## MINGAN SUB DIVISION.

*Overseer Duguay* reports an increase in all the fisheries of his sub-division. The vessels which left Esquimaux Point in March for the seal fishery did poorly, never having been able to penetrate far enough to reach the bulk of the seals; they, however, did better than last year. Salmon fishing began about the end of May and was a good average. Summer cod fishing was better than it has been for several seasons; the fall fishery did not amount to anything. The fall herring fleet from Esquimaux Point did well, and owing to the scarcity of Labrador herring, their cargoes sold well, fetching as much as \$5.50 per barrel.

## NATASHQUAN SUB-DIVISION.

*Overseer Gaudin* reports salmon fishing began at Natashquan between 10th and 15th of June, and later at Agwanus and Nabissippi; the catch was better than last year. Cod fishing was again poor though better than for either of the two past seasons, and would have been much better had not so much time been lost by repeated gales of wind, which were so prevalent throughout the Gulf during the summer. Bait was scarce; capelin came in plentifully in June, but only lasted a short time. The fishery was mainly made on clams and launce; the latter were scarce. The fall herring fishery was a total failure, not a barrel being taken—one of the Natashquan schooners got a load on the coast of Newfoundland. Seal fishing may also be called poor; some schooners did well while others did nothing. One vessel took a thousand seals, another getting only four. The fishery laws were generally well observed; no fines were inflicted.

## WASHEECOOTAI SUB-DIVISION.

*Overseer Mathurin* reports salmon fishing began on 12th June and closed on 15th July. The fishery was poor. Fishermen attribute the failure to the lateness of the spring, and the absence of the capelin, which keeps the salmon about the estuaries; this led the fish to proceed directly up the rivers. The cod fishery was poor; two schooners from Esquimaux Point fished for some time at Romaine, they only took about 120 cwt. of cod. There are very few resident cod fishermen in this sub-division.

## ST. AUGUSTIN SUB-DIVISION.

*Overseer Legowé* reports the salmon fishery as being good; two hundred and five barrels of salmon having been taken this season, compared with one hundred and thirty-two in 1887. The cod fishery was also better though the cod did not come in shore as abundantly as in the good years; nearly all the fish were taken in deep water with hook and line. Herring were exceedingly scarce, hardly enough being



taken for local consumption. The sedentary seal fishery was good; the returns showing 1,196 skins, and 4,854 galls. of oil more than in 1887.

BONNE ESPERANCE SUB-DIVISION.

*Mr. Whitely* reports that the cod fishery on the whole was a fair voyage. Capelin struck the shore about 22nd of June, and were taken until about 1st of August. The general average of boats kept constantly on the fishing grounds was 100 cwt. each. Dried cod sold readily for \$3.60 per cwt. cash, and \$4 trade. All the inhabitants of Bonne Esperance are well provided with supplies for the coming winter. Salmon fishing was an average, the run was very rapid, not lasting over two weeks. Salmon sold for \$12 per barrel, taken without barrel, and without inspection. Seal fishing with nets was below the average; the ice kept running along shore until late in June, preventing the setting of nets until the seals had passed. Herring were plenty in July, but as the fishermen were then engaged in the cod fishery, they could not leave off for the herring; later on the herring had left the shore. On the whole, the season of 1888 has been a prosperous one, and coming after several poor fishing seasons, it has inspired us with renewed hope, and next season's operations will be entered upon cheerfully.

RETURN showing the Number and Value of Vessels, Boats, Nets, &c., in the County  
reau, in the Province of

RISTIGOUCHE SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				Smelt, lbs.	
	Vessels.				Boats.		Nets.		Seines.			
	Number.	Tonnage.	Value. \$	Men.	Number.	Value. \$	Men.	Fathoms.	Value. \$	Fathoms.		Value. \$
Estuary of the Ristigouche.....	.....	.....	.....	.....	22	210	20	7540	7540	150	150	12000

NEW RICHMOND SUB-DIVISION

Maguasha .....	.....	.....	.....	.....	19	320	42	1400	1140	.....	.....	.....
Nouvelle .....	.....	.....	.....	.....	40	600	80	1650	1400	.....	.....	.....
Carleton .....	.....	.....	.....	.....	80	1200	112	5200	3600	200	200	.....
Maria .....	.....	.....	.....	.....	125	1550	162	8600	7050	40	40	.....
New Richmond and Black Cape .....	.....	.....	.....	.....	55	750	65	3225	2287	.....	.....	.....
Capelin .....	.....	.....	.....	.....	85	1450	105	3600	1150	140	140	.....
Big and Little Bonaventure .....	.....	.....	.....	.....	167	5700	272	4500	2550	400	400	.....
New Carlisle .....	.....	.....	.....	.....	25	500	60	1500	750	.....	.....	.....
Paspebiac .....	18	1800	126000	114	150	3800	270	3300	2000	340	340	.....
Totals.....	18	1800	126000	114	746	15870	1168	32975	21907	1120	1120	.....

PORT DANIEL SUB-DIVISION

Paspebiac Portage.....	.....	.....	.....	.....	28	1450	60	1050	400	200	300	.....
Nouvelle and Shegawack.....	.....	.....	.....	.....	45	2300	95	2200	800	120	170	.....
Point Loup-Marin.....	.....	.....	.....	.....	35	500	50	1000	500	60	90	.....
Port Daniel Bay .....	.....	.....	.....	.....	40	1800	80	1600	800	150	250	.....
L'Anse à la Barbe .....	.....	.....	.....	.....	20	1200	45	700	400	60	90	.....
L'Anse à Gascon .....	.....	.....	.....	.....	50	3000	120	2500	1500	200	250	.....
Totals .....	.....	.....	.....	.....	218	10250	450	9050	4400	790	1150	.....

TOTAL FOR THE COUNTY

Ristigouche Sub-division.....	.....	.....	.....	.....	22	210	20	7540	7540	150	150	12000
New Richmond do .....	18	1800	126000	114	746	15870	1168	32975	21907	1120	1120	.....
Port Daniel do .....	.....	.....	.....	.....	218	10250	450	9050	4400	790	1150	.....
Totals.....	18	1800	126000	114	986	26330	1638	49565	33847	2060	2420	12000

of Bonaventure, extending from the Head of Tide, Ristigouche, to Point Maque-Quebec, for the Year 1888.

(Head of Tide to Maguasha Head).

KINDS OF FISH.											FISH PRODUCTS.				VALUE.
Salmon, fresh, lbs.	Cod, cwt.	Haddock, cwt.	Herring, barrels.	Herring, smoked, boxes.	Mackerel, barrels.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, barrels.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.	
46632	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$ cts. 9,926 40

(Maguasha Head to Paspebiac Point).

4815	.....	.....	80	300	.....	.....	8	.....	.....	70	.....	.....	1000	325	3,448 00
5034	.....	.....	100	550	3	.....	6	.....	.....	120	.....	.....	2000	370	4,489 30
11526	10	.....	150	2500	.....	3	3	.....	.....	200	10	10	5500	350	8,399 20
29551	25	.....	200	1400	5	.....	40	3	.....	170	20	15	5000	800	13,905 70
12465	.....	.....	80	1000	.....	.....	.....	.....	.....	150	.....	.....	3000	450	6,813 00
.....	250	30	180	1200	4	.....	.....	11	.....	240	150	210	4000	710	8,245 00
400	1000	80	300	900	.....	.....	6	20	16000	250	400	400	5500	1500	18,265 00
568	150	40	50	.....	.....	.....	.....	8	.....	100	50	200	2000	390	4,333 60
325	900	140	100	700	.....	.....	10	30	.....	250	500	500	4000	390	10,460 00
64684	2335	290	1240	8550	12	3	73	72	16000	1550	1130	1335	32000	5285	78,358 80

(Paspebiac Point to Point Maquereau).

200	1000	.....	.....	.....	.....	.....	.....	.....	.....	800	200	600	200	5,760 00
800	850	.....	.....	.....	.....	.....	.....	.....	29529	700	175	1200	400	9,845 98
.....	300	.....	3	.....	.....	.....	.....	.....	.....	200	50	1500	140	2,677 00
24947	1600	.....	.....	.....	.....	.....	.....	.....	26221	800	250	1000	200	16,530 92
2500	1200	.....	.....	.....	.....	.....	.....	.....	.....	1000	300	800	80	6,870 00
800	4000	.....	20	.....	.....	.....	.....	.....	.....	3500	900	2000	300	21,190 00
29247	8950	.....	23	.....	.....	.....	.....	.....	55750	7000	1875	7100	1320	62,873 90

OF BONAVENTURE.

46632	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,926 40
64684	2335	290	1240	8520	12	3	73	72	16000	1550	1130	1335	32000	5285	78,358 80
29247	8950	.....	23	.....	.....	.....	.....	.....	55750	.....	7000	1875	7100	1320	62,873 90
140563	11285	290	1263	8550	12	3	73	72	71750	1500	8130	3210	39100	6605	151,159 10



[illegible]

of Gaspé, extending from Point Maquereau to Cape Chatte (and including the of Quebec, for the Year 1888.

KINDS OF FISH.										FISH PRODUCTS.										Fish used for Local Consumption, barrels.	VALUE.	
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Herring, smoked, boxes.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, barrels.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, gallons.	Porpoise Oil, gallons.	Whale Oil, gallons.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.					
143	1	300	3												125	30	10	6			\$	cts.
1919	6	790	56					21792							1715	280	1905	146			13,380	54
1460	5	1000	25												1200	160	25	60			7,032	50
4000	10	500	25				31								3000	700	50	100			19,215	00
200	3	150	20												150	30	20	25			1,582	00
1140	17	1160	33	50	4	2	20	9696							1080	325	250	65			8,426	52
50			4	40			3								40	5	150	25			454	50
1130	5	1050	15												1000	250	100	60			5,770	00
2275	8	1100	57		1	1	5	8000		7					1970	337	650	96			13,293	50
1915			192				21	16800							1520	645		66			12,525	50
7300	19	301	1060				75	5280	39						6803	2 55	300	312			43,560	40
4420			83												3490	970		158			21,495	00
950								43469							800	350	25	80			10,193	78
5100			20				56	5280	1						4140	1390		220			26,297	60
1450			24				3								1174	665		107			7,821	10
3971			46				3	7500	53	1		4			2761	700	70	32			19,477	00
9355	70		273				1	9600	10						7400	2347		275			47,555	50
1150			66		2	2		14506							766	296		20			8,514	40
2770			60			1									2500	900		90			16,480	00
495			27					14000	7						430	180		25			4,621	00
2020		250	68				2								1860	1160		85			11,361	00
4685			92												4145	2380		41			24,509	00
1000	50		350				5	5000	50	1	1	4	3		1000	180	575	100			7,766	30
1620	50		385				6	12816							1400	330	275	103			11,422	42
640	18		30					12000							640	170		70			5,253	00
1040	26		60		2										1040	300		200			7,266	40
389			119		2										222	120		90			4,632	00
20			2		5	4								2272				110			9,877	50
305			15					10224	20						127	93		75			7,022	18
222			4												135	63		33			1,849	50
1117			15												723	198		42			5,712	20
1344			10												1254	385		81			7,029	10
65595	296	6601	3239	90	19	10	231	195957	187	2	1	8	3	2272	54610	18404	1405	2998			392,188	44

RETURN showing the Number and Value of Vessels, Boats  
MAGDALEN RIVER SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.				Salmon, brls.	Salmon, fresh, lbs.	
	Vessels.				Boats.		Nets.		Seines.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Fathoms.	Value.	Fathoms.	Value.			
			\$			\$		\$		\$			
Cape des Rosiers .....					70	1200	100	1200	800	150	250		
L'Anse à Louise .....					70	1200	100	1200	800				
Jersey Cove .....					22	400	51	500	300				
Griffin Cove .....					110	2400	125	311	1915	140	175		1800
Fern Cove .....					8	65	10	120	40				
Fox River .....					114	2750	157	2875	1899	180	250		
Little River .....					26	370	38	600	250				
Little Cape .....					32	400	54	650	200				
Grande Anse .....					4	25	7	80	27				
Echourie .....					12	160	18	200	60				
Point Jaune .....					7	70	14	180	50				
L'Anse à Valeau .....					14	230	21	275	80				
Grand Etang .....					20	460	23	594	270	70	140		
Ohlorydorme .....					50	875	61	1140	700			3	
Pointe Sèche .....					32	600	38	715	350				
Frigate Point .....					16	208	18	325	240				
Little Vallée .....					16	216	17	280	112				
Grand Vallée .....					32	570	37	910	480	30	50	2	
Magdalen River .....					11	190	18	350	140	30	35	12	
Manche D'Epée .....					8	100	7	160	50				
Gros Mâle .....					10	170	5	200	80				
Anse Pleureuse .....					10	170	16	350	100				
Mont Louis .....					40	700	40	800	500	80	65	15	
Rivière à Pierre .....					10	170	16	400	200				
Rivière à Claude .....					10	180	16	400	200				
Totals .....					753	13909	1007	14815	9834	680	965	32	1800



## and Nets, &amp;c., in the County of Gaspé, &amp;c.—Continued.

(Cape Gaspé to Glaude River.)

KINDS OF FISH.										FISH PRODUCTS.										VALUE.	
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, brls.	Mackerel, brls.	Trout, brls.	Cod Tongues and Souds, brls.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, brls.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.	Fish used for Local Consumption, brls.	\$	cts.			
1700	...	1200	300	.....	.....	15	.....	.....	.....	.....	.....	.....	1600	500	100	100	10,110	00			
1600	.....	.....	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	1500	400	.....	120	9,680	00			
1000	.....	.....	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	800	180	.....	100	5,790	00			
2700	.....	3000	80	.....	.....	4	.....	.....	.....	.....	.....	.....	2000	300	150	200	13,945	00			
105	.....	600	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	40	.....	20	684	00			
4200	.....	5400	150	.....	.....	6	.....	.....	.....	.....	.....	.....	3000	500	150	340	21,385	00			
450	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	110	.....	30	2,285	00			
600	.....	600	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	150	.....	50	3,165	00			
100	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	20	.....	17	570	00			
300	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	60	.....	18	1,532	00			
300	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	50	.....	14	1,491	00			
300	.....	600	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	75	100	21	1,668	50			
950	.....	1800	40	.....	.....	3	.....	.....	.....	.....	.....	.....	800	100	70	23	4,767	00			
1750	.....	3600	15	.....	.....	4	.....	.....	.....	.....	.....	.....	1600	250	50	61	8,792	00			
950	.....	1500	18	.....	.....	2	.....	.....	.....	.....	.....	.....	850	150	.....	30	4,727	00			
450	.....	600	8	.....	.....	1	.....	.....	.....	.....	.....	.....	375	75	.....	20	2,244	50			
300	.....	600	4	.....	.....	1	.....	.....	.....	.....	.....	.....	200	75	.....	16	1,542	50			
1000	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	750	150	100	60	4,877	00			
300	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	50	100	20	1,717	00			
100	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	40	.....	10	592	00			
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	50	.....	12	555	00			
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	50	.....	20	587	00			
800	.....	2400	30	.....	.....	4	.....	.....	.....	.....	.....	.....	700	200	.....	100	4,870	00			
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	50	.....	50	707	00			
150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	50	.....	50	915	00			
20405	.....	21900	1393	.....	7	36	.....	.....	.....	.....	.....	.....	16305	3675	820	1502	109,186	50			

RETURN showing the Number and Value of Vessels, Boats and  
STE. ANNE DES MONTS SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						Salmon, barrels.	Salmon, fresh, lbs.	Smelt, lbs.	Cod, cwt.
	Vessels.			Boats.			Nets.		Seines.		Trap-Nets.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.				
		\$	\$			\$		\$		\$		\$				
Marsoufs.....	5	200	10	150	113	.....	.....	.....	.....	.....	3	.....	.....	.....	185	
Martin River.....	8	120	16	200	170	.....	.....	.....	.....	.....	3	.....	.....	.....	210	
Ste. Ann's.....	2	159	10000	10	59	2950	116	1716	1703	256	93	.....	.....	4131	1182	
Cape Chatte.....	1	45	2000	4	27	1130	54	710	532	106	60	.....	.....	.....	510	
Totals.....	3	204	12000	14	99	4400	198	2776	2518	362	158	.....	1	4131	2087	

## MAGDALEN ISLANDS

Amherst Island....	6	175	3120	42	110	2875	283	13200	8800	805	1550				6670
Grindstone do....	9	355	14200	72	116	5580	328	1800	1200	580	1050				7400
Allright do....	12	482	17200	96	37	960	109	1230	820						2315
Bryon do....					20	400	60	240	150						700
Entry do....					8	200	24								100
Grosse Isle and Grand Entry....					26	860	72	300	200		1	150			445
Totals.....	27	1012	34520	210	317	10875	876	16770	11170	1385	2600	1	150		17630

## TOTAL FOR THE

Sub-divisions—																
Gaspé.....	15	978	23550	85	1072	52384	2014	45935	25217	3173	3272			102935	63166	65595
Magdalen River						753	13909	1007	14815	9334	680	935		32	1800	20405
Ste. Ann's.....	3	204	12000	14	99	4400	196	2776	2518	362	158			6	4131	2087
Magdalen Isl'ds.	27	1012	34520	210	317	10875	876	16770	11170	1385	2600	1	150			17630
Totals.....	45	2194	70070	309	2241	81568	4093	80346	48729	5600	6995	1	150	38	108866	105717

## Fishing Materials, &amp;c., in the County of Gaspé, &amp;c.—Continued.

(Marsons to Cape Chatte).

KINDS OF FISH.										FISH PRODUCTS.										VALUE.	
Halibut, cwt.	Halibut, lbs.	Herring, barrels.	Herring, smoked, boxes	Mackerel, barrels.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, barrels.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, gallons.	Porpoise Oil, gallons.	Whale Oil, gallons.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.		\$	cts.
		25													100	10	600	30		1,315	00
		25													100	15	520	25		1,410	50
		122										230			590	125	150	343		8,086	70
		139			23										340	100	120	302		4,396	00
		311			28							230			1130	250	1390	700		15,208	20

## SUB-DIVISION.

300	4000	250	1394	21	52800	2580	7670	4530	2225	1060	1095	71,063	50
150	10000	570	570	10	85820	8000	23000	4700	5000	500	1600	83,378	40
	2000	610	610		19200	2000	6000	1580	2000	560	800	32,396	00
	2000	240	240		14400	24	80	400	220	50	36	9,619	00
								60		50	30	2,297	00
		250			85160	57	145	260	620	50	80	17,243	20
450	18000	260	2974	31	257380	12661	36895	11530	10065	2150	3641	215,997	10

## COUNTY OF GASPÉ.

296	6601	3220	90	19	10	231	105957	187	2	1	8	3	2272	54610	18404	4405	2998	392,188	44
	21900	1393		7		36								16305	3675	920	1502	109,186	50
		311		28								230		1130	250	1397	700	15,208	20
450	18000	250	1974			31	257380		12661		36895			11530	10065	2150	3641	215,997	10
746	46501	5193	90	2974	54	10	453337	187	12663	1	36903	233	2272	83575	32204	8865	8841	732,580	24



RETURN showing the Number and Value of Vessels, Boats, Nets, &c., in the County  
Quebec, for

## POINT DES MONTS SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						Salmon, barrels.	Salmon, fresh, lbs.
	Vessels.				Boats.		Nets.		Seines.		Trap-Nets.			
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.		
			\$			\$		\$		\$		\$		
Manicouagan.....	1	14	300	2	3	55	3	100	40	.....	.....	.....	3	295
Point aux Outardes.....	.....	.....	.....	.....	5	80	5	110	58	.....	.....	.....	.....	.....
Mistassini.....	.....	.....	.....	.....	2	40	1	60	30	.....	.....	.....	.....	.....
Godbout.....	.....	.....	.....	.....	10	190	8	600	300	280	375	.....	.....	4138
Point des Monts.....	.....	.....	.....	.....	7	120	6	600	262	60	60	.....	.....	2806
Trinity Bay.....	1	3	100	1	13	264	10	840	400	.....	.....	.....	.....	11655
Cariboo Island.....	.....	.....	.....	.....	9	197	7	430	260	60	45	.....	.....	8166
Egg Island.....	.....	.....	.....	.....	5	117	3	205	95	.....	.....	.....	.....	.....
English Bay.....	.....	.....	.....	.....	34	635	32	684	455	.....	.....	.....	.....	5576
Penticost.....	.....	.....	.....	.....	3	45	2	65	45	.....	.....	.....	.....	.....
Cailles Rouges.....	.....	.....	.....	.....	4	150	4	100	50	.....	.....	.....	.....	.....
Cawees.....	1	24	800	3	6	165	4	270	270	219	650	.....	.....	.....
Totals.....	3	41	1200	6	101	2048	85	4064	2265	619	1130	3	70	32626

## MOISIE SUB-DIVISION

Jambons.....	2	22	550	4	12	414	22	683	693	.....	.....	.....	.....	.....
St. Margaret's River.....	.....	.....	.....	.....	2	100	4	524	463	36	30	.....	2	4427
Seven Islands.....	1	17	450	2	19	1028	40	1349	1055	111	65	.....	.....	10450
Moisie.....	1	54	400	4	22	1650	101	5268	3950	525	365	.....	6	118175
Pigou.....	.....	.....	.....	.....	4	210	8	200	70	53	40	.....	.....	.....
Totals.....	4	93	1400	10	59	3402	175	8024	6231	725	500	.....	7	133052

of Saguenay, extending from Manicouagan to Jambons, in the Province of the Year 1888.

(Manicouagan to Jambons).

KINDS OF FISH.							FISH PRODUCTS.							FISH used for Local Consumption,		VALUE.
Cod, cwt.	Halibut, lbs.	Herring, barrels.	Mackerel, barrels.	Trout, barrels.	Cod, Tongues and Sounds, barrels.	Coarse and Mixed Fish, barrels.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, gallons.	Porpoise Oil, gallons.	Cod Oil, gallons.	Fish used as Bait, brls.	Fish used as Manure, barrels.	Fish used for Local Consumption, barrels.	cts.	
.....	900	2 18	.....	.....	.....	1 9	30	.....	120	.....	.....	.....	.....	6	102 00	
.....	.....	.....	.....	.....	3	.....	2	.....	8	.....	.....	.....	.....	10	307 00	
14	.....	.....	.....	.....	.....	.....	107	26	762	52	14	2	.....	1	39 20	
134	14400	40	2	.....	.....	.....	47	.....	283	.....	134	40	.....	8	1,486 80	
34	.....	9	.....	4	.....	.....	5	.....	31	.....	34	10	.....	9	3,037 00	
400	300	16	.....	2	.....	.....	32	.....	192	.....	400	100	.....	3	2,601 00	
10	.....	24	.....	1	.....	.....	5	.....	30	.....	10	2	.....	25	3,864 00	
2099	750	49	2	7	.....	.....	19	.....	114	.....	2099	300	.....	5	190 00	
60	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	60	12	.....	60	11,476 40	
100	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	100	12	.....	40	454 00	
230	2000	51	15	.....	.....	.....	.....	.....	.....	.....	230	50	.....	4	590 00	
3081	18350	241	19	17	.....	10	247	26	1540	52	3081	528	.....	1	1,720 00	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	172	25,867 40	

(Jambons to Rivière au Bouleau).

940	2400	309	.....	.....	6	.....	.....	.....	.....	.....	461	213	.....	24	5,895 90
22	700	3	.....	1	.....	.....	.....	.....	.....	.....	15	10	.....	4	1,134 40
1713	5100	185	.....	5	7	.....	49	.....	114	.....	790	375	10	76	11,544 10
3588	5107	.....	.....	.....	2	.....	99	.....	282	.....	1850	630	20	125	41,054 50
350	800	.....	.....	.....	2	.....	4	.....	8	.....	208	70	.....	5	1,715 40
6613	14107	497	.....	6	17	.....	152	.....	404	.....	3324	1298	30	234	61,344 30

**RETURN showing the Number and Value of Vessels, Boats,**  
**MINGAN SUB-DIVISION**

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.					
	Vessels.			Boats.			Nets.		Seines.		Trap-Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			\$			\$		\$		\$		\$
Chaloupe .....					8	400	17		50	120		
Little River .....					6	300	14		100	300		
Sheldrake .....					30	1500	67	120	200	300	2	400
Thunder River .....	1	30	300	3	35	1750	79	100	500	600		
Dock .....					15	750	33		100	120		
Rich Point .....					8	400	19		100	120		
Jupitagan .....					5	250	14	200	200			
Magpie .....					44	2200	102	400	400	420		
Magpie River .....					1	60	2	200	150			
St. Johns .....					45	2270	102	500	500	360		
Long Point .....					12	600	29	100	100	240		
Mingan .....					1	50	3	100	50			
Romaine .....					1	20	1	75	50			
Esquimaux Point .....	22	550	20000	120	110	550	120	1600	500	600		
Betchouan .....	2	60	1000	10	4	200	10	200	100	120		
La Corneille .....					1	50	2	100	100			
Piashter Bay .....					2	100	5	100	100			
Totals .....	25	640	21300	133	328	11450	619	3795	2470	2670	3300	2 400

**NATASHQUAN SUB-DIVISION**

Nabsippi .....					3	80	6	460	200	52	60		
Agwanus .....	1	17	400	4	7	200	14	520	250	30	20		
Washtawooka .....					2	50	4	175	80				
Natashquan Harbor .....					10	380	23	500	200	90	100		
Little Natashquan .....	7	184	4700	29	22	700	35	1200	500	250	250		
Natashquan River .....					2	60	4	6150	660	30	40		
Totals .....	8	201	5100	33	46	1470	86	9005	1890	452	470		



## Nets, &amp;c., in the County of Saguenay, &amp;c.—Continued.

(Chaloupe to Watsheeshoo).

KINDS OF FISH.							FISH PRODUCTS.					Fish used for Local Consumption, brls.	VALUE.	
Salmon, brls.	Salmon, fresh, lbs.	Cod, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Cod Tongues and Sounds, brls.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.		\$	cts.
		350	720						300	55		18		1,746 50
		200	500						175	40		17		1,048 00
4		3000	1000						2500	700	20	100		14,624 00
		1200	1920						1000	400	20	100		6,402 00
		1000	200						800	350	10	20		4,950 00
		400	109						350	80	5	8		1,904 50
8		300							250	80		10		1,588 00
3		3080	1250						2700	750	100	200		15,548 00
16		40		100					20	10		4		855 00
1	30000	3150	1800						2750	750	50	200		21,846 00
		720	300				15	45	600	200		80		3,803 00
8							60	180				3		272 00
							10	30				1		26 00
		700	800	7200			9000	54000	550	400		500		65,100 00
		200		400			40	240	150	40		30		2,776 00
18		50					10	30	35	10		3		551 00
19		50					20	60	35	10		6		601 00
77	30000	14440	8590	7700			9155	54585	12215	3875	205	1300		143,641 00

(Watsheeshoo to English Point).

41		130		6			50	100	70	20		15		1,408 00
34		320		15			100	400	180	50		35		2,431 00
9		100		5					60	15		8		642 50
		225		30		1			200	100		30		1,380 00
37½		1150	700	230		4	2082	9624	800	220	44	70		13,113 60
114½		30		12	4		25	30	15	12		10		2,133 00
235½		1955	700	298	4	5	2257	10154	1325	417	44	168		21,108 10

## RETURN showing the Number and Value of Vessels, Boats,

## WASHEECOOTAI SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.					
	Vessels.				Boats.		Nets.		Seines.		Trap-Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
			\$			\$		\$		\$		\$
Kegashka.....					2	60	2	80	45			
Mistassini Bay.....					1	10	1	50	30			
Curlow Point.....					1	40	1	30	20			
Washeecootai.....					3	50	3	250	150			
Romaine East.....					5	250	5	200	100	18	10	
Coacochoo.....	1	22	600	6	4	80	2	24	4	45	20	
Totals.....	1	22	600	6	16	490	14	634	349	63	30	

## ST. AUGUSTIN SUB-DIVISION

Wolf Bay.....	2	50	4	150	100	60	40			
Etamamu.....	2	40	3	200	170					
Point à Mourier.....	1	100	2	150	100					
Harrington.....	22	440	26	100	40	80	600			
Little Meccatina.....	5	75	9	80	50	100	50			
Whale Head.....	14	280	18	860	500	500	300	2	300	
Mutton Bay.....	30	600	42	460	255	750	500	3	400	
La Tabatière.....	8	160	11	532	290	700	500			
Big Meccatina.....	3	100	3	150	110					
Kekapoe.....	3	60	3	355	250					
Poacachoo.....	3	135	2	300	220					
Rigolet.....	2	20	3	340	130					
St. Augustin Bay.....	3	60	2	287	202					
St. Augustin River.....	2	80	2	200	200					
Sandy Island.....	1	30	2	290	190					
Caucasippi.....	3	95	2	330	160					
L'Anse à Portage.....	2	70	1	150	100					
Canso Harbor.....	4	130	6	117	90	180	90			
Chicatica.....										
Totals.....	113	2585	143	5572	3507	3090	2080	5	700	

## Nets, &amp;c., in the County of Saguenay, &amp;c.—Continued.

(English Point to Coacoachoo).

KINDS OF FISH.							FISH PRODUCTS.					Fish used for Local Consumption, brls.	VALUE.	
Salmon, brls.	Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Lobsters, in cans, lbs.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.		\$	cts.
18	160		500				10	30	160	25		3	1,113	50
11					1							1	190	00
1					1							2	34	00
18							6	18				4	317	20
15				3	1		20	60				8	338	00
5	10			10	1	7000	13	39	10	5		3	1,062	10
68	170		500	13	4	7000	49	147	170	30		21	3,054	80

(Coacoachoo to Chicatica).

1	60								60	20		5	330	00
25					3							1	434	00
2					3		60	240				4	234	00
3	1500								1500	500		70	7,678	00
3	200								200	60		6	1,042	00
13	800						280	1120	800	270		38	5,013	00
21	1800				4		19	76	1800	500		80	9,415	40
10	350						2300	9200	350	160		40	8,080	00
1							250	1000				5	696	00
12							200	800				6	736	00
16							46	184				5	395	60
11					4							3	228	00
29												4	480	00
12					6		201	884				4	822	60
24					3							4	430	00
11					4							4	232	00
7												4	275	00
1	30								30	10		3	28	00
3	100								100	20		6	542	00
205	4840				27		3356	13504	4840	1540		292	37,081	60



## RETURN showing the Number and Value of Vessels, Boats,

## BONNE ESPÉRANCE SUB-DIVISION

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.						FISHING MATERIAL.						
	Vessels.				Boats.		Nets.	Seines.		Trap-Nets.			
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	
			\$			\$		\$		\$		\$	
Nabitiipi .....					1	20	1	80	80				
Bull Cove .....					2	80	2	200	200				
Rocky Bay and Lydia's Cove....					8	300	16	200	200	40	60		
Dog Island.....					4	200	4	600	600				
Pêche-à-Lizotte .....					1	30	1	100	50				
Old Fort Island .....					10	400	20	200	100	40	50		
St. Paul's River.....					4	100	4	600	400				
Bonne Espérance.....	1	45	1400	8	60	3000	120	300	200	600	3000	2	300
Waby Island .....					8	400	20			50	120		
Burnt Island .....					10	800	25			50	120	1	200
Pigeon Island .....					10	800	24	100	60	250	500		
Stick Point .....					4	300	10	200	120	50	80		
Salmon Bay .....	1	110	3000	10	60	3000	130	200	100	400	1000		
Little Fishery .....					2	100	3	200	120	50	80		
Five Leagues .....					3	150	6	100	70	300	800		
Middle Bay.....	2	100	4000	20	25	1300	50						
Belles Amours.....					1	50	2	60	40				
Bradore Bay.....	1	70	2000	12	20	1000	40	600	500	200	300		
L'Anse des Dunnes .....					2	100	4					2	400
Long Point .....					5	200	12	600	560	50	100		
Gulch Cove.....	2	80	2000	20	10	400	24	200	200	50	140	2	400
Blancs Sablons .....	1	50	1400	10	8	300	20	400	400	50	120		
Green Island.....	1	50	1400	10	20	1000	45	300	400	300	600		
Totals.....	9	505	15200	90	278	14330	583	5240	4400	2480	7070	7	1300

## ANTICOSTI ISLAND

Fox Bay .....					9	450	18	360	180				
Salmon River .....	1	20	500	3	2	60	5	400	200				
Mauzerolles.....					10	300	20	800	400				
Tapp's Cove .....					10	300	10	400	200				
Potato River .....					4	120	4	300	150				
Capelin Bay .....					8	400	10	320	300				
Macdonald's Cove .....					26	1040	36	1040	800				
Raven's Head .....					6	240	8	240	200				
Indian Harbor .....					10	400	14	400	375				
English Bay .....	1	34	780	5	35	1050	29	500	400	120	160		
Strawberry Cove .....					27	665	25	400	300	100	120		
Becsie River .....					2	40	1	40	20				
Jupiter River .....					2	40	2	200	200				
Shallow Creek .....					3	100	2	150	150				
Dauphine River.....					1	10	1	150	150				
Totals.....	2	54	1280	8	155	5215	185	5700	4025	220	280		

## Nets, &amp;c., in the County of Saguenay, &amp;c.—Continued.

(Chicatica to Blancs Sablons).

KINDS OF FISH.						FISH PRODUCTS.						Fish used for Local Consumption, brls.	VALUE. \$ cts.
Salmon, brls.	Cod, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Eels, brls.	Seal Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Cod Oil, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.		
28				2		10	20					4	54 00
15	200		50	2		20	50		200	130		4	484 00
	25			4		120	700		25	50		12	1,643 00
				2								4	621 00
	550			2								1	24 00
60				10		40	100		500	250		25	3,055 00
15	5500			5		20	40					5	1,066 00
	700								5500	1500		200	27,490 00
	1200								700	240		20	3,520 00
10	1100								1200	300		30	5,850 00
12	250								1100	300		30	5,570 00
15	4000			4					250	100		12	1,540 00
15	100					15	60		4000	1500		200	20,890 00
4	150		50			12	60		100	40		4	795 00
	2500								150	50		5	1,055 00
5	50								2500	800		60	12,440 00
	1000								50	30		4	361 00
						120	700		1000	1000		30	7,220 00
												4	16 00
	250					300	1800		200	140		12	2,358 00
	1000					100	600		1000	200		20	5,120 00
	200					150	900		200	150		10	1,655 00
	1000								1000	500		30	5,270 00
179	19775		300	31		907	5030		19675	7280		726	108,087 00

## SUB-DIVISION.

500	1000	90	20	60	400	75	30	2,896 50				
20		10	110	330			4	618 00				
	450	750			375	70	4	2,946 00				
	240	200			200	50	4	1,591 00				
	160	200			100	20	2	978 00				
	300	3000			200	70	5	2,505 00				
15	900	4000			600	200	15	6,040 00				
	150	750			100	35	4	1,103 50				
	340	700			220	90	7	2,201 00				
	405	4000		40	150	48	300	95	120	3,161 70		
	310	1600		10	62	300	300	75	110	2,562 50		
			5	10	30				2	80 00		
14			5						2	282 00		
20			5	10	30				2	400 00		
10										160 00		
79	3755	16200	1302	15	10	252	900	48	2795	780	311	27,525 20

RETURN showing the Total Number and Value of Vessels, Boats, Nets, &c., in the County of Saguenay Division, extending from Manicouagan to Blancs Sablons, &c.—Continued.  
TOTAL FOR THE COUNTY OF SAGUENAY.

NAME OF PLACE.	VESSELS AND BOATS EMPLOYED IN FISHING.				FISHING MATERIAL.				KINDS OF FISH.							
	Vessels.		Boats.		Nets.		Seines.		Trap Nets.	Salmon, barrels.	Salmon, fresh, lbs.	Smelt, lbs.	Cod, cwt.	Haddock, cwt.	Halibut, lbs.	
	No.	Tonnage.	Value.	Men.	Value.	Men.	Fathoms.	Value.								Fathoms.
Point des Monts Sub-division..	3	41	1200	6	1011	2048	85	4064	2265	619	1130	3	70	32626	.....	18350
Moisie do ..	4	93	1400	10	59	3402	175	8024	6231	725	500	.....	.....	6613	.....	14107
Mingan do ..	25	640	21300	133	328	11450	619	3795	2470	2670	3300	2	400	30000	.....	8590
Natashquan do ..	8	201	5100	33	46	1470	86	9005	1890	452	470	.....	.....	1935	.....	700
Washetcootai do ..	1	22	600	6	16	490	14	650	359	63	30	.....	.....	170	.....	500
St. Augustin do ..	...	...	...	...	113	2585	143	5572	3507	3090	2080	5	700	205	.....	.....
Bonne Espérance do ..	8	505	15200	90	278	14330	583	5240	4400	2480	7150	7	1300	179	.....	.....
Anticosti do ..	2	54	1280	8	155	5215	185	5700	4025	220	280	.....	.....	3755	.....	16200
Total .....	52	1556	46080	286	1096	40990	1890	42050	25157	10319	14940	17	2470	851	195678	58447
GRAND TOTAL OF THE GULF DIVISION																
Bonaventure County ..	18	1500	126000	114	988	26330	1638	49555	33847	2060	2450	.....	.....	140563	12000	11285
Gaspé do ..	45	2194	70070	309	2241	81568	4093	80346	48739	5600	6994	1	150	39	63166	105717
Saguenay do ..	52	1556	46080	286	1096	40990	1890	42050	25157	10319	14940	17	2470	851	195678	54629
Grand Total .....	115	5550	242150	709	4323	148688	7621	171961	107743	17979	24385	18	2620	869	445107	171631



RETURN showing the Total Number and Value of Vessels, Boats, Nets, &c., in the County of Saguenay Division, &c.—*Con.*  
TOTAL FOR COUNTY OF SAGUENAY.

NAME OF PLACE.	KINDS OF FISH.								FISH PRODUCTS.								Fish used for Local Consumption, barrels.	VALUE.	\$ cts.
	Herring, barrels.	Herring, smoked, boxes.	Mackerel, barrels.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Coarse and Mixed Fish, barrels.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, gallons.	Porpoise Oil, gallons.	Whale Oil, gallons.	Cod Oil, gallons.	Fish used as Bait, barrels.	Fish used as Manure, barrels.			
Point des Monts Sub-Division	241	.....	19	17	.....	17	.....	10	247	26	1540	52	.....	3081	528	.....	172	25,867 40	
do Moisie	497	.....	.....	6	.....	17	.....	.....	152	.....	401	.....	.....	3324	1298	30	234	61,344 30	
do Mingan	7700	.....	.....	.....	.....	.....	.....	.....	9155	.....	54585	.....	.....	13215	3875	205	1300	143,641 00	
do Natashquan	298	.....	.....	4	.....	5	.....	.....	2257	.....	10 54	.....	.....	1325	417	44	168	21,108 10	
do Washeecootai	13	.....	.....	4	.....	.....	7000	.....	49	.....	13504	.....	.....	170	30	.....	21	3,054 80	
do St. Augustin	.....	.....	.....	27	.....	.....	.....	.....	3356	.....	5030	.....	.....	4810	1510	.....	292	37,081 60	
do St. Anne	300	.....	.....	31	.....	.....	.....	.....	907	.....	900	48	.....	19875	7280	.....	726	108,087 00	
do Bonne Espérance	1302	.....	.....	15	10	.....	.....	.....	252	.....	.....	.....	.....	2795	780	.....	311	27,525 20	
do Anticosti	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Total .....	10351	.....	19	104	10	22	7000	10	16375	26	86264	100	.....	47425	15748	279	3234	427,709 40	
GRAND TOTAL OF THE GULF DIVISION.																			
Bonaventure County .....	1263	8550	12	3	73	72	71750	1550	.....	.....	.....	.....	.....	8130	3210	39100	6605	151,159 10	
do Gaspé	5193	90	2974	54	10	293	472537	187	12663	1	36803	233	2272	83575	32394	8855	8841	732,580 24	
do Saguenay	10351	.....	19	104	10	22	7000	10	16375	26	86264	100	.....	47425	15748	279	3234	427,709 40	
Grand Total .....	16807	8640	3005	161	53	392	551287	1747	29038	27	123167	333	2272	139130	51352	48244	18670	1,311,448 74	

STATEMENT of Value of Lobster Canneries and Outfit in the Gulf Division, Season of 1888.

COUNTY OF BONAVENTURE.

Locality.	No. of Traps.	Value of Traps, Boats, &c.	Value of Building ma- chinery, &c.	Total Value.
		\$	\$	\$
Little Bonaventure.	900	554	900	1,454
Nouvelle.	700	900	1,000	1,900
Port Daniel.	1,000	1,200	1,800	3,000
L'Anse au Gascon.	600	600	800	1,400
Totals	3,200	3,254	4,500	7,754

COUNTY OF GASPÉ (Mainland).

Newport.	1,000	975	800	1,775
do	700	500	900	1,400
Grand Pabos.	500	350	400	750
Little Pabos.	400	200	120	320
Little River West.	500	562	550	1,112
Grand River.	400	410	240	650
Cape Despair.	1,200	1,875	1,200	3,075
Percé.	500	400	1,350	1,750
Cape Cove.		50	300	350
Bonaventure Island.	400	275	800	1,075
Corner of the Beach.	600	800	470	1,270
Belle Anse.	600	500	275	775
Chien Blanc.	600	300	200	500
Bois Brûlé.	500	550	180	730
Seal Cove.	700	562	1,200	1,762
Cape aux Os	500	400	175	575
Totals	9,100	8,709	9,160	17,869

COUNTY OF GASPÉ (Magdalen Islands).

Entry Island.	800	900	260	1,160
Bryon Island.	950	1,000	900	1,900
do	450	500	300	800
Grosse Isle.	700	750	500	1,250
Grand Entry.	1,800	2,500	2,500	5,000
do	1,800	2,000	1,500	3,500
Wolf Island.	500	750	400	1,150
All Right Island.	900	1,800	2,500	4,300
House Harbor (2).	1,200	2,000	1,200	3,200
Etang du Nord.	750	700	750	1,450
do	1,500	2,000	1,500	4,800
Hospital.	1,300	2,000	2,300	4,300
Etang des Caps	400	500	500	1,000
Totals	13,050	17,700	16,110	33,810

**STATEMENT of Value of Lobster Canneries and Outfit in the Gulf Division, Season of 1888.**

**COUNTY OF SAGUENAY.**

Locality.	No. of Traps.	Value of Traps,Boats, &c.	Value of Building ma- chinery, &c.	Total Value.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Coacoachoo.....	400	600	400	1,000

**TOTAL OF LOBSTER CANNERIES IN GULF DIVISION.**

County Bonaventure.....	4 canneries	3,200	3,254	4,500	7,754
do Gaspé (Mainland).....	16 do	9,100	8,709	9,160	17,869
do do (Magdalen Islands)...	14 do	13,050	17,700	16,110	33,810
do Saguenay.....	1 do	400	600	400	1,000
Grand total .....	35	25,750	30,263	30,170	60,433

**STATEMENT of Value of Material employed in Gulf Fisheries, Season of 1888.**

Description.	Value.
	\$
Vessels, 115, of 5,550 tons.....	242,150
Boats, 4,323 .....	148,888
Nets, 171,961 fathoms.....	107,743
Seines, 17,979 ".....	24,385
Traps and brush fisheries, 18.....	2,620
35 lobster factories and plant, 25,750 traps .....	60,433
Total.....	586,219

**STATEMENT of Men employed in Gulf Fisheries, Season of 1888.**

Description.	Number.
Sailors.....	709
Fishermen and Shoremen.....	7,621
Total.....	8,330



## RECAPITULATION.

STATEMENT of the Yield and Value of the Fisheries of the Gulf Division,  
Province of Quebec, during the Year 1888.

Kinds of Fish and Oil.	Quantities.	Prices.	Value.
		\$	\$ cts.
Salmon, pickled.....	Brls. 889	16 00	14,224 00
do fresh, in ice.....	Lbs. 445,107	0 20	89,021 40
Cod, dried.....	Cwt. 171,631	4 00	686,524 00
Haddock, dried.....	" 1,036	4 00	4,144 00
Halibut.....	Lbs. 104,948	0 10	10,494 80
Herring, pickled.....	Brls. 16,807	4 00	67,228 00
do smoked.....	Boxes. 8,640	0 25	2,160 00
Mackerel, pickled.....	Brls. 3,005	15 00	45,075 00
Trout do.....	" 161	10 00	1,610 00
Eels do.....	" 93	10 00	930 00
Cod tongues and sounds, pickled.....	" 392	10 00	3,920 00
Lobsters, canned.....	Lbs. 551,287	0 12	66,154 44
Coarse and mixed fish.....	Brls. 1,747	3 00	5,241 00
Seal skins.....	Pieces 29,038	1 00	29,038 00
Porpoise skins.....	" 27	5 00	135 00
Seal oil.....	Galls. 123,167	0 40	49,266 80
Porpoise oil.....	" 333	0 40	133 20
Whale oil.....	" 2,272	0 40	908 80
Cod oil.....	" 139,130	0 40	55,652 00
Fish for bait.....	Brls. 51,352	1 50	77,028 00
do for manure.....	" 48,244	0 50	24,122 00
do for local consumption.....	" 18,670	4 00	74,680 00
Smelt, fresh.....	Lbs. 75,166	0 05	3,758 30
Total Value, 1888.....			1,311,448 74
do 1887.....			1,302,457 36
Increase for 1888.....			8,991 38

SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF  
QUEBEC, EXCLUSIVE OF THE GULF DIVISION, FOR THE YEAR  
1888.

SOUTH SHORE DIVISION, FROM CAPE CHATTE TO POINT LÉVIS.

*Overseer J. B. Saucier*, who has charge of the division extending from Cape Chatte to Rivière Blanche, reports a falling off in almost every kind of fish. Herring were nearly as plentiful as during the last two years, but below the catch of 1884 and 1885. Capelin appeared only on certain parts of the coast. Cod appear to be getting more plentiful, and should fishermen pay attention to this fishery their efforts would be rewarded. Over 900 barrels are reported, which are included in the column for mixed fish. The salmon catch was a poor one, as compared with last year. Only 248 salmon, weighing 3,957 pounds, were caught; 197 in nets and 51 with the fly, in Matane River. The largest fish weighed 34 pounds; the average being 16 pounds. In 1887 anglers took 159 fish, showing a decrease of 66 per cent. The total value of the fisheries of this division is given at \$3,981.

*Overseer L. E. Grondin's* division extends from Rivière Blanche to Rimouski. He reports an increase of 180 salmon and 900 barrels of herring. In 1887 no sardines were taken in this division, but last season 255 barrels are returned. Shad seem to have deserted this part of the coast, only 140 of these fish being caught, when nearly 3,000 had been taken the year before. The total value of the fisheries of this division is given at \$41,258.

*Overseer H. Martin*, whose division extends from Rimouski to Point à la Loupe, states, that although fishing was, as a whole, better than the previous year, still it was much below that of other seasons. However, the returns show a marked improvement in every fishery, except that of shad. Herrings exceed that of last year's catch by 500 barrels, and eels by 2,500 pounds. No infractions of the fishery laws are reported. The total value of the fisheries of this division is returned at \$15,049.

*Overseer Napoleon Levesque*, who has charge of the frontage of the County of Témiscouata, reports a considerable falling off in salmon and shad, which is attributed to the high temperature of the water, but as far as shad is concerned, their absence was noted all along that coast. The other kinds of fish show an average catch. Forty-three porpoises and twenty-four seals were killed by Isle Verte fishermen during the season. The total value of this division is \$38,471.

*Overseer X. Pelletier*, whose division extends from St. André to Ste. Anne la Pocatière, reports a falling off in the yield of salmon, shad and eels; sturgeon and sardines show an increase over 1887. Mr. Pelletier returns 1,100 barrels of sardines, and states that forty porpoises were killed at Ste. Anne and River Ouelle, against nine last year. No violations of the law were reported. The total value of the fisheries of this division is given at \$14,047.

*Overseer Eugène Pelletier*, who replaced F. C. Caron, has charge of the division extending from Ste. Anne la Pocatière to Point Lévis. With the exception of eels and sturgeon, the fisheries of his district show a falling off. The Overseer attributes this decline to unfavourable weather, but old and experienced fishermen are of the opinion that it is due to excessive fishing in the past. Mr. Pelletier endeavoured to check the use of illegal mesh nets, and hopes to succeed in stopping it next season. The quantity of eels is returned at 353,928 pounds, including Crane Island, an increase over last year's catch of 140,000 pounds. The sturgeon fishery yielded only 166 barrels in 1887 against 106,000 pounds this year; a considerable increase. Salmon and shad show a decrease of over 25 per cent. The total value of the fisheries of this division is given at \$36,979.

## NORTH SHORE OF THE RIVER ST. LAWRENCE, FROM QUEBEC TO BERSIMIS.

### QUEBEC AND MONTMORENCY DIVISION.

*Overseer L. P. Huot's* division comprises the Island of Orleans and that part of the north shore of the River St. Lawrence extending from Chateau Richer to St. Joachim. An improvement in the value of the fisheries of this district as compared with last year is reported. Salmon yielded about an average catch. Eels and shad were on the decline. The latter especially is reported a complete failure; not only in this district, but everywhere else. As anticipated in last year's report, bar fishing has greatly improved. Pickerel and smelts have also considerably increased. Orleans fishermen now realize that too-closely set fisheries are injurious, and some of them will consequently abandon fishing. All the fish from this division are sold in the Quebec markets and vicinity; the total value is given at \$20,867, an increase of \$6,355 over the previous year.

### MURRAY BAY DIVISION.

*Overseer U. Bhreure's* division extends from River du Gouffre to River aux Canards including Coudres Island. The catch of salmon is reported as inferior to that of 1887; the same may be said of eels, but sardines show a fair increase. The fisheries of Coudres Island caught 135 porpoises, yielding 4,500 gallons of oil which sold for 48 cents a gallon; the skins fetch about \$6 each, although for uniformity they are put down at \$4 in the statistics. Mr. Bhreure reports no infractions to the fishery laws. The total value of the fisheries of this division is about the same as last year. Wardens *Ant. Filion, H. Côté* and *E. Martin*, report a deficit in the yield of trout and eels. Warden *Simard* made no report.

### SAGUENAY DIVISION.

*Overseer L. N. Catellier*, who has charge of the Saguenay district says, considering that there were five salmon stands less than in 1887, the catch shows a fair increase. The river guardians report them well stocked with breeding fish, as many as 520 being counted on the spawning grounds of the Ste. Marguerite alone. Salmon appeared about the end of May, but the best fishing occurred from 10th to 25th June. This explains why anglers had such poor sport on the Ste. Marguerite. They only arrived in July, while the fish ascended to the head waters early, while the waters were very high. The decrease in other kinds of fish is explained by the fact that the fishermen paid little attention to fishing, setting only a few brush weirs to secure food for their own use. The total value of the fisheries in the above district is set down at \$11,372.

### LAKE ST. JOHN DIVISION.

The services of Wardens *Bilodeau, Potvin* and *Maltais*, who had charge of these waters, having been dispensed with, the value of the fisheries of this division is only estimated. The Government of the Province of Quebec leases and has assumed control of the inland waters of this division and attends to their protection.

## FROM QUEBEC TO UPPER OTTAWA.

### RICHELIEU COUNTY DIVISION.

*Overseer Felix Latraverse*, who has charge of this division, reports a falling off in the catch, due, no doubt, to the fact that fishing was not so general as before. Shad declined one-third, and eels one-half. Maskinonge and pike were abundant.

*Overseer J. F. Picotin*, who has charge of the St. Francis River, reports that fishing for soft fish during the spring season was better than ever, but that eel fishing was a partial failure, on account of a high freshet destroying the eel weirs early in the season. A few salmon were caught during the construction of the weirs. No violations of the law are reported from this district.



*Overseer Jos Gingras*, of the Yamaska River, reports a fair catch of coarse fish. The total value of the above divisions is set at \$11,376.

#### VERCHÈRES DIVISION.

*Overseer John Morris*, of the Montreal division, who attended to this district in addition to his own, reports an average catch with the exception of shad, which shows a considerable falling off. The total value of the fisheries of this district is given at \$25,880.

#### RICHELIEU RIVER AND IBERVILLE DIVISION.

*Overseer J. B. Chevalier*, who has charge of Richelieu River from St. John to Lake Champlain, reports a falling off in the catch. This is not attributed to any scarcity of fish, but to restrictive measures in the time allowed for fishing, which caused fishermen to seek other employment. Those who continued the business were satisfied. Eels are the principal kind of fish caught in this division; the catch being put down at 138,700 lbs., most of which is exported to American markets, where they command remunerative prices. Mr. Chevalier reports no violations of the law. The total value of the fisheries of his division is given at \$10,762.

#### RICHELIEU AND CHAMBLY DIVISION.

*Overseer J. O. Dion*, who has charge of the lower part of the Richelieu River from Richelieu Village to Sorel, states that the prohibition of net fishing, between 15th April and 1st October, will do good. Ice in the spring as well as low water in the fall will preclude excessive seining and afford fish ample protection. Bass is reported as getting more plentiful, but pickerel scarcer. The catch of eels is stated at 35,000 lbs. The total value of the fisheries of his division is set down at \$2,463.

#### CHATEAUGUAY DIVISION.

*Overseer J. i aberge*, who has charge of the Chateauguay River, reports the catch of bass inferior to that of previous years, owing to the water keeping so muddy; but soft-fish, which thrive well in that kind of water, were plentiful and over 300,000 lbs. were caught. About half a million lbs. of fish are returned from this district, valued at \$23,700. All these find ready sale on the Montreal market.

#### BEAUHARNOIS DIVISION.

*Overseer John Kelly*, who has charge of part of Lake St. Francis, fronting on the Counties of Beauharnois and Huntington, reports an improvement in the catch of eels and pike, but a decrease in bass and maskinongé. The number of men engaged in the fisheries of this division is stated at 90, and the total yield valued at \$12,174.

#### MISSISQUOI BAY DIVISION.

*Overseer P. E. Luke*, who has charge of the Missisquoi Bay, returns a catch of 16,000 lbs. of shad, 33,200 lbs. of pickerel, and 27,000 lbs. of coarse fish, valued at nearly \$4,000. The close season was well observed. The fishway on Pike River was kept in good repair, and three others are being built. A few salmon trout fry from the Magog hatchery were planted in Selby Pond.

#### MAGOG AND BROME DIVISION.

*Overseer T. Marchessault*, who has charge of Brome Lake, returns the catch of bass at fifty tons; still, he says it was not so plentiful as the year before. Pickerel were abundant, the yield being given at 150 tons. Cold rainy weather during the season greatly impeded fishing. The total value of the fisheries of this division is given at \$27,446.

#### SHERBROOKE AND MEGANTIC DIVISION.

*Overseer P. W. Nagle*, who has charge of the inland waters of the County of Stanstead, reports the catch of fish inferior to that of previous years. This he

attributes to a prevalence of high waters, caused by an exceptionally wet season. Few abuses are now noticed in this division. A vigorous enforcement of the fishery laws, coupled with a regular system of guardianship, renders the task of poachers an uneasy one. Several fines were imposed. There are seven fishways in this district, some of which are getting deficient. Mr. Nagle took steps to have them properly repaired.

*Overseer Joel Shurtleff*, who has charge of the inland waters of the County of Compton, states that the excessive wet season was unfavourable to fishing. Maskinonge seems to be the staple fish of this district, 14,000 pounds being returned. Certain streams are injured by sawdust, and mill-owners have been warned to discontinue the practice.

*Overseer A. L. Darche*, whose division comprises the inland waters of the Counties of Richmond and Wolfe, sees no perceptible change in the yield of his district. The various close seasons were well observed. There are three fishways in his division, which were kept in good repair. A few mill owners still allow sawdust to go into the water.

*Overseer J. B. McDonald*, who has charge of Lake Megantic, states that fishing being now limited to angling, fish are on the increase, especially lange. Owing to several public works going on in this division, Mr. McDonald had to closely watch the labourers, who will secure fish by all means, even having recourse to dynamite. Mr. McDonald confiscated one net, but failed to discover the owner. Mill owners are making efforts to comply with the sawdust Act. The sudden freshets of last summer swept away a large quantity of rubbish, which will pollute these waters.

*Overseer John McCaw*, who has charge of lakes in Wolfe and Megantic, estimates, to the best of his ability, the catch of trout at 24,000 lbs., maskinonge 30,000, pickerel at 25,000, and whitefish at 15,000. Illegal fishing has been materially checked in the waters of this division.

The total value of all these divisions is estimated at \$17,832.

#### ST. MAURICE AND CHAMPLAIN DIVISION.

*Overseer Joseph Lambert*, of Three Rivers, has charge of that portion of the River St. Lawrence fronting on the County of St. Maurice. He reports fishing quite satisfactory. All kinds of fish appear to be more abundant; tom-cods exceed last year's yield by 25,000 bushels. This item alone, valued at 60 cents a bushel, realizes \$45,000, which is more than the value of any other division above Quebec. Mr. Lambert was surprised to find that none of the large numbers of trout caught in the inland waters of this division, found its way to Three Rivers, until he was informed that these fish are shipped to other markets by the North Shore Railway.

*Overseers Lacoursiere and Desaulniers*, who have charge of the inland waters of the Counties of Champlain and St. Maurice, report a good catch; nearly 60,000 lbs. The total value of the fisheries of these divisions is given at \$107,559.

#### BERTHIER, MONTCALM AND JOLIETTE DIVISIONS.

*Overseer S. A. Grant*, whose division comprises that part of the River St. Lawrence fronting on the Counties of Berthier and Maskinonge, states that the partial failure of the fisheries of his district can neither be attributed to a lack of fish nor to the unfavorable weather, but to the refusal of fishermen to take out licenses.

*Overseer J. W. Hanson's* division comprises that part of St. Lawrence fronting on the County of Berthier. He issued forty six licenses during the year. The different close seasons were well observed, and no infractions of the fishery laws came to his notice. The total value of the fisheries for the above divisions is reckoned at \$11,682.

#### MONTREAL DIVISION.

*Overseer John Morris*, whose division comprises the waters around the Island of Montreal, reports a fair catch all over. The fishery regulations were well observed,



and no violations were reported. The total value of the fisheries for this division is set down at \$28,380; an increase of about \$4,000.

#### TERREBONNE DIVISION.

*Overseer Jos. Lauzon*, who has charge of Rivers Jésus and Des Prairies, states that the catch of soft fish exceeds that of the previous year. Pickerel were plentiful but of smaller size. The catch in this division is used for local consumption. No violations of the law are reported.

*Overseers Cloutier and Filiatrault*, who have charge of the inland waters of the County of Terrebonne, estimate the catch of trout at 38,000 lbs. The total value of the fisheries of this division is set down at \$6,767.

#### LAKE OF THE TWO MOUNTAINS AND ISLE PERROT DIVISION.

*Overseer Théophile Sabourin's* division comprises the south shore of the River Ottawa from Oka to Carillon. He reports a much smaller number of fishermen, owing to the enforcement of the license system. Fishermen at first were rather reluctant to comply with the regulations, but ultimately did so. Sturgeon is the staple fish of this division, 15,000 lbs. being caught last year. The returns also show a catch of 10,000 of coarse fish. The total value of the fisheries for this division is given at \$3,505, including those around Isle Perrot.

#### LOWER OTTAWA DIVISION.

*Overseer R. W. Jones* who has charge of the north shore of the Ottawa River, from Oka to Carillon, reports an average yield. The catch of coarse fish exceeds that of 1887. Mr. Jones reports that fishermen camp around, moving from place to place, where they think fishing better. On this account they need constant watching, as they would as soon fish during close season or on Sunday as at any other time. The total value of the fisheries of this division is reckoned at \$6,610, including the trout caught in the inland waters of Argenteuil.

#### UPPER OTTAWA AND GATINEAU DIVISIONS.

*Overseer Joseph Marion*, who has charge of the waters of the County of Ottawa, reports as follows:—

"Fishing on the Ottawa was just as good, and I may say, better than in previous years. There was a larger quantity of mixed fish such as suckers, carp, perch, catfish, &c., caught than before; but fishermen complain very much of the Government dam at Carillon which bars the river and prevents the better class of fish such as maskinongé, doré, bass, sturgeon, from ascending. I seized thirteen nets, found set in the Ottawa River on Sunday, contrary to the Fisheries Act. One of the offenders pleaded sickness, and his nets were returned to him with a warning that any further violation would imply a fine as well as confiscation. The other owners are unknown and never claimed the nets. During the month of September I visited the lower part of my division, from Ottawa to Montebello, and the upper part thereof from Huli to Onslow, for the purpose of distributing notices of the fall and winter close seasons. In November I again visited the principal fishing localities, for the purpose of collecting statistics of the fisheries in my division. Every Thursday and Friday during the close season, I visited the Ottawa and Hull markets, as well as the local dealers, but only on one occasion did I find prohibited fish exposed for sale, and this I ascertained had been frozen before the close season began. The law relative to the protection of speckled-trout is getting better known and very few violations occur. Netting, seining or spearing is no longer practised, and no fishing is attempted from 1st October to 1st January. For this reason, I have been able to dispense with the services of guardians at Blue Sea, and Thirty-One Mile Lake; the latter of which, I understand, is now let by the Quebec Government to the settlers, retaining only guardians in Masham, Denholm, Wakefield and Derry, who for a small stipend of \$25 or \$30 a year render effective services in protecting fish in their neighbourhood."

The total value of the fisheries of this division is given at \$23,517.



## STATISTICS OF FISHERIES IN THE PROVINCE OF QUEBEC

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number the River St. Lawrence, from Cape Chatte

NAMES OF PLACES.	FISHING BOATS.		Number of Fishermen.	FISHING MATERIAL.								Salmon, lbs.
	Number.	Value.		Gill Nets.			Brush Fish-eries.		Eel Fish-eries.			
				Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.		
		\$				\$		\$		\$		
Capucins.....	15	150	30	1	30	30	3	45			182	
Mechins.....	20	200	40	5	360	360	2	30			1557	
Cherbourg.....	12	120	24	1	30	30					420	
Ste. Félicité.....	5	50	10				6	90				
Matane.....	8	80	16	4	180	180	11	165			1800	
Boules and Rivière Blanche.....			6				8	80			300	
Métis.....	3		3				6	120			700	
Ste. Luce.....			14	1	75	75	14	230			2800	
Ste. Anne.....			7	1	75	75	7	140			1700	
Rimouski.....			13	1	75	75	12	180			790	
Rivière Hâtée.....	10	80	25				12	500	2	15	1750	
L'Anse au Foin.....	4	30	12	1	250	100	7	205	2	20	2250	
St. Fabien.....	3	20	8	1	125	75	7	150	8	100	1250	
St. Simon.....	2	25	8				8	220	3	60	3000	
Lake Temiscouata & Touladi River.....	12	120	24	20	300	126	2	40				
Inland Waters, Co. Temiscouata.....							6	600			252	
Trois Pistoles.....	3	275	10				23	2300			1000	
*Isle Verte.....	4	285	54	1	50	150						
do (mainland).....	9	1200	11				1	75	1	15		
Cacouna.....	1	100	11	1	60	200	9	900	2	60	900	
†Rivière du Loup.....			9	1	30	90	4	600	3	75	300	
Notre Dame du Portage.....			12				9	225	3	40		
St. André.....			13				3	205	12	700		
Kamouraska.....			8	1	30	200	1	160	7	168	300	
St. Denis.....			18				3	180	26	1080	1200	
Rivière Ouelle.....			22						32	1925		
Ste. Anne.....			20						22	812		
Inland Waters, Co. L'Islet.....												
St. Roch.....			34						36	1109		
St. Jean.....			46						46	1530		
L'Islet.....			35						35	1260		
Isle aux Grues.....			25				25	4800				
Cap St. Ignace.....			21				3	90	15	414		
L'Anse à Gill.....			10				10	1000				
St. Thomas.....	1	10	41	1	40	320	3	90	37	819	8	
Berthier.....	4	48	28	4	360	2700			23	384	141	
St. Valier.....	1	20	1	1	300	2700					392	
St. Michel.....	5	60	5	5	320	2880					388	
Beaumont.....	6	300	4	4	420	3780					750	
Point Lévis.....	7	400	8	6	386	3000					1000	
Totals.....	132	3573	686	61	3436	17146	205	13420	315	10586	25130	

\* 24 seal skins; 172 gallons seal oil.

† 2 seines; value \$200.

## EXCLUSIVE OF THE GULF OF ST. LAWRENCE.

of Men, together with the Yield, Value and Kinds of Fish, &c., on the South Shore of  
to Point Lévis during the Year 1888.

KINDS OF FISH															
Trout, lbs.	Shad, lbs.	Herring, brls.	Eels, lbs.	Sturgeon, lbs.	Sardines, brls.	Bar and White Fish, lbs.	Pickrel, lbs.	Coarse and Small Fish, brls.	Fish for Manure, brls.	Porpoise Skins, No.	Porpoise Oils, galls.				UE.
															\$ cts.
		100						200							1,036 40
400		60						300							1,491 40
		20						100							464 00
		40						50							310 00
500		60						10							680 00
		140			25				300						846 00
		2000			100				100						8,490 00
	90	2500			40				200						10,785 40
	30	2000			30				100						8,481 80
	300	3000			60				600						12,656 00
	1200	2000	2200		250			25	2500						10,629 00
	3000	200	600		75			12	300						1,877 00
	750	125	6000	100	50			6	200						1,429 00
	900	50	800	200	20			5	250						1,114 00
10500		110													1,490 00
4200															420 00
	125	164		200	328			75	7						1,938 40
	32200	760		400	320			4850	6	43	2580				22,005 80
	40	3	200	50	10			2	2						66
	2000	120	2000	1400	243			3750	52						12,939
	2200	32	2224	400	4			234	24						1,203 44
			3880					11	5						268 30
		126	3610	100	80			4							978 60
	2700	15	1844	5000	940			700							5,611 44
	14400	3	13450	800	81			76							2,442 00
			38620							10	600				2,597 20
	400		14212	2600				182		30	1800				2,418 72
6000															600 00
			10678					214							1,282 68
			32360					184							2,493 60
			197000					105							12,135 00
			40500												2,430 00
			6630	18000				25							1,552 80
			6000	2000		1500		30							690 00
	100		1460	3000		2000	200	9							474 20
	2196		12800	15000		15744	500	16							3,165 48
	6000		14000	30000		10000	1400	10							3,992 40
	5000		10500	16000		6040	1200	11							2,555 80
	16825		8000	17000		6880	820	8							3,283 10
	13000		14000	5000		8500	1300	15							2,924 20
21600	103456	13628	443548	117250	2656	50664	5440	11219	4646	83	4980				152,297 56





with the Yield, Value and Kinds of Fish, &c., on the North Shore of the River Bersimis, during the Year 1888.

KINDS OF FISH.													VALUE.	
Trout, lbs.	Shad, lbs.	Herring, barrels.	Eels, lbs.	Sturgeon, lbs.	Sardines, barrels.	White Fish and Bar, lbs.	Pickrel, lbs.	Pike, lbs.	Coarse and Small Fish, barrels.	Fish for manure, barrels.	Porpoise Skins.	Porpoise Oil, galls.	\$	cts.
	5736		17200			8920	1932							2,325 68
	1536		19350			7020	984							2,009 80
	867		14878			35244	2646							3,968 98
	96		5400			12600	960							1,403 36
			1400	1000		2736	888		21					479 16
			3450	5400		11580	2760		126					2,001 00
			2400			1512	420		4					302 16
	1200		7400	7600		13320	1464							2,185 44
	1200		4400	3800		5580	600							1,088 40
			1600	8400		17064	2940		225					2,816 52
			3380			2520	636		15					487 56
	1200		23916			3652								1,799 12
33000			30000						35	150				5,280 00
			5800		26				10	1000	135	4500		3,296 00
		3	1563		20				6	4230				2,298 78
		1	100		25				3	720				454 00
9000		1			20					1500				1,714 00
		6			10					1000				612 60
3000		2			4					400				552 00
		1			3					200				235 60
1000														128 00
4000		1			1					50				432 00
35000														3,500 00

\* Estimated.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, together  
St. Lawrence from Quebec to

NAMES OF PLACES.	FISHING BOATS.		No. of Fishermen.	KINDS OF NETS USED.						Salmon, lbs.	
				Gill Nets.		Brush Fisheries.		Eel Fisheries.			
	No.	Value.		No.	Fathoms.	Value.	No.	Value.	No.		Value.
<i>Saguenay Division.</i>											
		\$				\$		\$		\$	
Rivière aux Canards.....	2	25	2				2	50			390
Anse Ste. Catherine.....	3	45	3				3	75			315
Poste St. Martin.....	3	45	5				5	100			
Grande Baie.....			2				2	25			
Tadoussac.....	3	45	3				2	50			
Pointe Rouge.....	2	50	4	2	150	150					3750
Moulin Baude.....	1	15	2	1	80	80					2550
Anse au Pilote.....	2	30	3	2	130	100					3825
Pointe à la Cariole.....	1	10	1	1	80	80					2250
Petites Bergeronnes..... (Anglers)											
Bon Desir.....	4	40					4	100			
Escoumains.....	4	60	7	4	182	150	4	80			3870
Baie des Bacons.....	1	10	1				1	20			120
Sault au Mouton.....	1	10	2				2	60			225
Mille Vaches.....			3				3	105			150
Pointe Boisvert.....	1	20	1	1	70	60					1170
Portneuf.....	2	30	2	1	100	75	1	20			1350
Sault au Cochon.....	1	20	2	1	120	100					1470
Pointe Colombier.....	1	300	5	2	200	200					3060
Ilets Jérémie.....	1	10	1				1	20			
Bersimis.....	1	10	1				1	20			105
Inland Waters.....											
<i>Lake St. John's Division.</i>											
†St. Joseph d'Alma to Roberval.....			380	300	9000	1500					
Totals.....	34	775	416	361	10562	9000	219	5343	236	2872	27906

† Estimated. Lake St. John and its tributaries being under charge of Quebec Government, no reliable statistics obtained.

with the Yield, Value and Kinds of Fish, &c., on the North Shore of the River Bersimis, during the Year 1888—Continued.

KINDS OF FISH.									Coarse and Small Fish, brls.	Fish of Manure, brls.	Porpoise Skins, No.	Porpoise Oil, galls.	VALUE.	
Trout, lbs.	Shad, lbs.	Herring, brls.	Eels, lbs.	Sturgeon, lbs.	Sardines, brls.	Whitefish, lbs.	Pickarel, lbs.	Pike, lbs.					\$	cts.
		5							10	75			165	50
		12							15	110			211	00
2000									30				290	00
500									4				62	00
3000		15								500	210	1260	1,954	00
													750	00
													510	00
													765	00
													450	00
2000													200	00
		25								150			175	00
		16			5					125			915	50
		5			2					50			75	00
		6			2					20			85	00
		10			3					75			116	50
													234	00
1000		10								15			417	50
2000													494	00
													612	00
		5											20	00
3000		10			3								370	00
25000													2,500	00
8000						40000	95000	50000	700				*20,300	00
131500	11835	134	142237	26200	124	161648	111230	50000	1204	10370	345	5760	71,042	16

\* Winninish, 100,000 pounds, at 6 cents per pound included.



RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets,  
Districts from Quebec to Upper

NAMES OF DIVISIONS.	FISHING BOATS.		No. of Fishermen.	KINDS OF NETS USED.								
				Gill Nets.			Seines.		Brush Fisheries.		Pel Fisheries.	
	No.	Value.		No.	Fathoms.	Value.	Fathoms.	Value.	No	Value.	No.	Value.
		\$			\$		\$		\$		\$	
Richelieu Co. (including St. Francis and Yamaska Rivers).....	148	1000	135	44	300	90	850	380	.....	.....	241	316
Verchères .....	12	240	24	.....	.....	.....	12	240	.....	.....	.....	.....
Chambly and Iberville (including Richelieu River).....	70	877	76	.....	.....	.....	587	337	.....	.....	39	533
Chateauguay .....	50	900	70	4	125	35	630	630	.....	.....	.....	.....
Beauharnois .....	46	495	90	.....	.....	.....	535	860	.....	.....	.....	.....
Missisquoi Bay .....	8	74	28	.....	.....	.....	811	270	.....	.....	.....	.....
Magog and Brome .....	75	1500	400	.....	.....	.....	.....	.....	.....	.....	10	40
Sherbrooke and Megantic..	20	300	150	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Champlain, St Maurice and Three Rivers.....	91	850	280	94	1415	470	455	100	240	2160	.....	.....
Berthier, Joliette and Montcalm .....	168	620	170	50	500	250	50	1000	.....	.....	150	1500
Montreal .....	19	285	38	.....	.....	.....	570	380	.....	.....	.....	.....
Terrebonne .....	50	500	50	.....	.....	.....	.....	.....	.....	.....	18	50
Lake of Two Mountains (including Isle Perrot) ...	9	100	9	74	1108	780	.....	.....	.....	.....	.....	.....
Lower Ottawa (including Inland Waters, County Argenteuil).....	20	300	22	30	1150	425	380	400	.....	.....	.....	.....
Upper Ottawa .....	80	500	95	300	3200	2000	.....	.....	.....	.....	.....	.....
Gatineau Lakes .....	.....	.....	45	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals .....	866	8541	1682	596	7798	4050	4880	4597	240	2160	448	2439

\*75,000 bushels Tom Cod.

together with the Yield, Value and Kinds of Fish, &c., including the Inland  
**Ottawa,** during the Year 1888.

## KINDS OF FISH.

Trout, lbs.	Shad, lbs.	Eels, lbs.	Sturgeon, lbs.	Whitefish, lbs.	Maskinonge, lbs.	Bass, lbs.	Pickeral, lbs.	Pike, lbs.	Coarse and Small Fish, lbs.	VALUE.
										\$ cts.
.....	6000	46200	60120	720	3700	900	1950	13900	116400	11,376 80
.....	4000	325000	25000	15000	9000	2500	3000	3400	80000	25,880 00
.....		173700	.....	.....	.....	775	1'50	2405	85600	13,225 75
.....		52000	70000	.....	9000	13000	36000	60000	330000	23,700 00
.....		42800	40900	.....	4490	7750	12600	28200	141400	12,164 40
.....	16000	.....	.....	.....	.....	.....	33200	.....	34200	3,978 00
15500	300	6300	.....	.....	.....	105000	303000	.....	34000	27,446 00
59650	8300	13860	5050	18000	46870	15625	50675	19625	34100	17,832 05
57800	141000	60000	130700	17900	11500	6325	26300	73000	971600	107,559 50
56000	11400	40500	5200	3840	2100	4100	8370	13000	27500	11,682 40
.....	200000	100000	25000	2000	40000	7000	25000	25000	105000	28,380 00
38000	8460	1650	25800	.....	.....	5800	4000	4500	.....	6,767 60
.....	2500	6000	20000	.....	6000	3500	10000	6500	10000	3,505 00
13500	1000	26000	25000	3000	1500	3000	7500	25000	51000	8,210 00
.....	.....	10500	8000	.....	2000	.....	16050	.....	42600	3,471 00
145000	.....	.....	.....	20700	.....	11500	.....	64000	.....	20,046 00
385450	398960	904510	440770	81160	136160	186775	538795	338530	2063400	325,224 50

## RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Cape Chatte to Point Lévis, in 1887 and 1888.

Kinds of Fish.	Prices for 1888.	1887.		1888.	
		Quantity.	Value.	Quantity.	Value.
	\$ cts.		\$ cts.		\$ cts.
Shad..... Lbs.	0 06	224,969	13,459 14	103,456	6,207 36
Bels..... Lbs.	0 06	322,314	19,338 84	443,548	26,612 88
Herring..... Brls.	4 00	12,524	56,358 00	13,628	54,512 00
Sturgeon..... Lbs.	0 06	*195	975 00	117,250	7,035 00
Sardines..... Brls.	3 00	860	2,580 00	2,656	7,968 00
Trout..... Lbs.	0 10	38,550	3,855 00	21,600	2,160 00
Salmon..... Lbs.	0 20	31,400	4,710 00	25,130	5,026 00
Whitefish and bar fish..... Lbs.	0 08	†1,644	2,055 00	50,664	4,053 12
Pickarel..... Lbs.	0 06			5,440	326 40
Porpoise skins..... No.	4 00	90	360 00	83	332 00
do oils..... Galls.	0 40	5,142	2,056 80	4,980	1,992 00
Coarse and mixed fish..... Brls.	3 00	8,694	26,082 00	11,219	33,657 00
Fish for manure..... Brls.	0 50	3,622	1,811 00	4,646	2,323 00
Seal skins..... No.	1 00			24	24 00
do oils..... Galls.	0 40			172	68 80
Total Value of the Fisheries.....			133,679 78		152,297 54
Increase.....					18,617 76

\* Barrels. † Doz.

## RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Quebec to Bersimis, in 1887 and 1888.

Kinds of Fish.	Prices for 1888.	1887.		1888.	
		Quantity.	Value.	Quantity.	Value.
	\$ cts.		\$ cts.		\$ cts.
Shad..... Lbs.	0 06	19,992	1,199 52	11,835	710 10
Bels..... Lbs.	0 06	223,384	13,763 04	142,237	8,534 22
Herring..... Brls.	4 00	145	652 50	134	536 00
Sturgeon..... Lbs.	0 06	128	640 00	26,200	1,572 00
Sardines..... Brls.	3 00	160	300 00	124	372 00
Salmon..... Lbs.	0 20	22,490	3,378 50	27,906	5,581 20
Trout..... Lbs.	0 10	136,000	13,600 00	131,500	13,150 00
Pickarel..... Lbs.	0 06	103,544	6,212 64	111,230	6,673 80
Pike..... Lbs.	0 05	42,600	2,130 00	50,000	2,500 00
Bar and whitefish..... Lbs.	0 08	3,357	4,196 25	161,648	12,931 84
Winninich..... Lbs.	0 06	55,000	3,300 00	100,000	6,000 00
Coarse and mixed fish..... Brls.	3 00	706	2,118 00	1,204	3,612 00
Fish as manure..... Brls.	0 50	5,077	2,538 50	10,370	5,185 00
Porpoise skins..... No.	4 00	500	2,000 00	345	1,380 00
do oil..... Galls.	0 40	33,000	13,200 00	5,760	2,304 00
Total Value of the Fisheries.....			69,423 95		71,042 16
Increase.....					1,618 21



# RECAPITULATION

Of the Quantity and Value of the different Fisheries, from Quebec to Upper Ottawa, in 1887 and 1888.

Kinds of Fish.	Prices for 1888.	1887.		1888.	
		Quantity.	Value.	Quantity.	Value.
			\$ cts.		\$ cts.
Shad..... Lbs.	0 06	488,651	29,319 06	398,960	23,937 60
Eels..... "	0 06	796,650	47,799 00	904,510	54,270 60
Sturgeon..... "	0 06	466,400	27,984 00	440,770	26,446 20
Trout..... "	0 10	356,210	35,621 00	385,450	38,545 00
Whitefish..... "	0 08	75,730	6,058 40	81,160	6,492 80
Maskinongé..... "	0 06	99,780	5,986 80	136,160	8,169 60
Bass..... "	0 06	134,479	8,069 74	186,775	11,206 50
Pickarel..... "	0 06	369,939	22,196 34	538,795	32,327 70
Pike..... "	0 05	324,050	16,202 50	333,530	16,926 50
Mixed fish..... "	0 03	1,792,350	53,770 50	2,063,400	61,901 00
Tom Cod..... Bush.	0 60	* 500,000	15,000 00	75,000	45,000 00
Total Value of the Fisheries.....			268,006 34		325,224 50
Increase for 1888.....					57,218 16

\* Lbs.

# RECAPITULATION.

YIELD and Value of the Fisheries of the Province of Quebec (*Exclusive of the Gulf Division*) for 1888.

Kinds of Fish.	Quantity.	Value.
		\$ cts.
Shad..... Lbs.	514,251	30,855 06
Eels..... Lbs.	1,490,295	89,417 70
Herring..... Brls.	13,762	55,048 00
Sturgeon..... Lbs.	584,220	35,053 20
Sardines..... Brls.	2,760	8,340 00
Trout..... Lbs.	538,550	53,855 00
Salmon..... "	53,036	10,607 20
Pickarel..... "	655,465	39,327 90
Pike..... "	385,500	19,426 50
Whitefish and Bar fish..... "	293,472	23,477 76
Maskinongé..... "	136,160	8,169 60
Bass..... "	186,775	11,206 50
Tom Cod..... Bush.	75,000	45,000 00
Winninish..... Lbs.	100,000	6,000 00
Mixed fish..... Brls.	22,740	99,171 00
Fish as manure..... Brls.	15,016	7,508 00
Seal skins..... No.	24	24 00
do oils..... Galls.	17 1/2	68 80
Porpoise skins..... No.	428	1,712 00
do oils..... Galls.	10,740	4,296 00
Total in 1888.....		548,564 22
do 1887.....		471,110 07
Increase.....		77,454 15

## GENERAL RECAPITULATION.

YIELD and Value of the Fisheries in the whole Province of Quebec, for 1888.

Kinds of Fish.	Quantity.	Value.
		\$ cts.
Salmon, pickled.....	Brls. 889	14,224 00
do fresh.....	Lbs. 498,143	99,628 60
Cod, dried.....	Cwt. 171,631	686,524 00
Haddock.....	" 1,036	4,144 00
Halibut.....	Lbs. 104,948	10,494 80
Herring, pickled.....	Brls. 30,569	122,276 00
do smoked.....	Boxes. 8,640	2,160 00
Mackerel.....	Brls. 3,005	45,075 00
Trout.....	" 161	1,610 00
do.....	Lbs. 538,550	53,855 00
Eels, pickled.....	Brls. 93	930 00
do.....	Lbs. 1,490,295	89,417 70
Cod Tongues and Sounds.....	Brls. 392	3,920 00
Lobsters, canned.....	Lbs. 551,287	66,154 44
Shad.....	" 514,251	30,855 06
Sturgeon.....	" 584,220	35,053 20
Sardines.....	Brls. 2,780	8,340 00
Pickarel.....	Lbs. 655,465	39,327 90
Pike.....	" 388,530	19,426 50
Whitefish and bar fish included.....	" 293,472	23,477 76
Maskinongé.....	" 136,160	8,169 60
Pass.....	" 186,775	11,206 50
Tom Cod.....	Bush. 75,000	45,000 00
Winninish.....	Lbs. 100,000	6,000 00
Mixed Fish.....	Brls. 24,487	104,412 00
Fish as Bait and Manure.....	" 114,612	108,658 00
Seal Skins.....	No. 29,062	29,062 00
do Oil.....	Galls. 123,339	49,335 60
Porpoise Skins.....	No. 455	1,847 00
do Oil.....	Galls. 11,073	4,429 20
Smelt, fresh.....	Lbs. 75,166	3,758 30
Fish Oils.....	Galls. 141,402	56,560 80
Fish for Local Consumption.....	Brls. 18,670	74,680 00
Total for 1888.....		1,860,012 96
do 1887.....		1,773,567 43
Increase.....		86,448 53

The following is an estimate of the capital invested in the fisheries of the Province of Quebec, for the year 1888.

Exclusive of the Gulf Division.	Value.	Total.
	\$	\$
1,032 fishing boats.....	12,889	
1,020 nets and seines (26,726) fathoms.....	34,993	
1,663 weirs (brush and eels).....	36,820	
Total value, Gulf Division (see page ).....		84,702
		585,819
		670,521

## APPENDIX No 6.

## ONTARIO.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF  
ONTARIO, FOR THE YEAR 1888.

## LAKE SUPERIOR DIVISION.

*Overseer W. C. Dobie*, appointed in the place of Mr. James Dickson, resigned, has charge of that portion of Lake Superior extending from Pigeon River to Slate Island. He states that fishing was very light during part of the summer, so much so, that several fishermen actually raised their nets; profits being insufficient to pay for the wear and tear. Fishing was more remunerative on the other side of the boundary. Fishermen were however fully compensated by the lateness of the fishing season, which beats all previous records. The catch of whitefish is given at 306,000 lbs. fresh, and 810 barrels pickled. That of trout at 187,200 lbs., and 630 barrels. The total value of the fisheries of this district is reckoned at \$67,346, exceeding that of last year by \$10,000.

*Overseer Jos. Wilson's* district extends from Slate Island, on Lake Superior, to Collin's Inlet, on Georgian Bay. He reports a considerable increase in whitefish and salmon-trout in all the waters of his district excepting at St. Mary's Rapids. Prices ruled higher than last season. During the month of June, Mr. Wilson visited Spanish River where he found pound net stakes in the channel, and ordered them to be removed. Calling about the same time at Squaw Island, he collected fees on forty-three boat licenses. Guardians *Strain* and *Cameron* rendered good service during the close seasons, which on the whole was fairly well observed. American fishermen were noticed fishing on the spawning grounds at Parisienne and Sandy Islands during the close time; but Mr. Wilson was powerless to act, being unable to procure a tug at the time. Mr. Wilson urges the adoption of a close season for sturgeon, from 1st May to 15th June. The total value of both divisions under his charge reach the sum of \$114,924, viz., \$91,892 for Lake Superior, and \$23,032 for the Manitoulin division to Spanish River inclusive.

## MANITOULIN ISLAND DIVISION.

*Overseer John Marks*, of St. Joseph's Island, and *Alex Brinkman* of Manitowaning, appointed in place of D. Cameron resigned, have charge of the waters around Manitoulin and adjacent islands. They report a large increase in the yield of trout and whitefish, and a decline in sturgeon. In order to judge of the importance of these fisheries, it is only necessary to notice the enormous catch of fish at some of the fishing stations. For instance at Squaw Island, six tugs with over 100,000 fathoms of nets, taking one million and a half pounds of fish, valued at \$120,180. The fisheries of the Ducks Islands come next in importance, reaching 600,000 lbs. of fish of all kinds, valued at \$55,200. The total value of the fisheries of this division is given at \$349,201; being double that of last year. No less than 19 tugs, 120 boats, 275,000 fathoms of nets, 48 pound nets, were employed in the fishing industry during the season.



## GEORGIAN BAY DIVISION.

*Overseer F. M. G. Fraser* again draws attention to the illegal practice of gutting the fish on the fishing grounds. More illegal fishing was done during close season, than usual. The only way to check this poaching during the month of November, is to have a suitable steam craft. This officer is informed on good authority that 30 tons of whitefish and salmon-trout were caught during the close season, and secreted near Meaford, but with a sail boat he was unable to effect a capture. Complaints that illegal trap nets were used, upon investigation, proved groundless. He failed to discover them, although suspecting their existence. Herring were never known to be so plentiful as they were this season on the north shore of Georgian Bay. The total catch of this division is given at \$139,143.

*Overseer Samuel Frazer* has charge of that part of Georgian Bay extending from Victoria Harbor to Allenwood. He claims that some fishermen residing in his district, but fishing in neighboring ones, often escape payment of license fees, and that neither overseers get returns of their catch. He is convinced that fishermen respect the laws when closely watched, and then only. He was credibly informed that the moment he left the Christian Islands, about the middle of November, no less than twelve fishing boats were seen fishing on the spawning grounds. Indians fearing retaliation from white men, did not inform on them. It is quite impossible to ascertain who are going to fish beforehand; the only reliable way is to visit the fishing grounds, and compel fishermen then and there to take out licenses. The Fishery Officer depending on sail-boats to perform his duties, is placed at a great disadvantage in having to compete with the well equipped steam crafts which are rapidly superseding boats, especially as a means of transport. The alleged throwing of sawdust and mill rubbish into the stream by a small steam mill, on the Wye River, proved, upon investigation by this officer, to be groundless. The total value of this division is given at \$19,370.

*Overseer G. S. Miller's* division comprises that portion of the south shore of Georgian Bay extending from Allenwood to Colpoy's Bay. He reports the catch about the same as that of 1887. Whitefish were very scarce on the south shore of Georgian Bay, which formerly was one of its best haunts this side of Killarney; on the contrary, salmon-trout were plentiful, of a large size and superior quality. Gill-net fishermen consider it a great boon that no pound-nets are allowed in Georgian Bay; some complain that certain parties in Colpoy's Bay, under pretence of procuring ova for the Government hatchery during November, manage to fish there, the best part of the season. Though many complain of the length of the close season, it was generally well observed. Most of the fishermen depend on the fall run of salmon-trout for their winter supply, the best time for fishing would be the end of November. The latter part of October was very stormy, playing havoc with the nets and inflicting severe losses. Over 40 boat fishermen in this division paid their licenses to other Overseers. The value of the catch is given at \$45,374.

*Overseer J. Shackleton* has charge of that portion of the shores of Georgian Bay which extends from Colpoy's Bay to Cape Hurd, and thence on Lake Huron to Stoke's Bay. He states that whitefish are getting scarcer every year, still he returns its catch at over 1,000,000 pounds, and over 900,000 pounds of salmon trout. Fishermen still persist in dumping fish offals on their way from the fishing grounds. Nearly all the nets used for summer fishing are of under sized mesh, being only 4 to 4½ inches extension measure. All parties have been duly notified respecting the prohibition of these illegal mesh nets, in accordance with instructions from headquarters. This overseer seized one boat and several nets. The total value of this division is given at \$182,902.

The total value of all Georgian Bay is reckoned at \$386,739.

## LAKE HURON DIVISION.

*Overseer R. H. Murray*, who has charge of that portion of the coast of Lake Huron extending from Stoke's Bay to Point Clark, returns over 300,000 pounds of whitefish, 40,000 pounds of salmon-trout, and 1,575 barrels of herring.

*Overseer J. A. Couse*, who replaced *A. C. McKinnon*, of Goderich, has charge of the division extending from Point Clark to Kettle Point. He returns an average catch. Twenty-two pound nets were fished between Kettle Point and Blue Point.

*Overseer D. McMaster*, of Sarnia, sends no report.

*Overseer Hugh McFayden* is in charge of the Saugeen River. The catch of speckled trout is estimated at 60,000 pounds, valued at 25 cents per pound. The season was excessively hot and dry. However; numerous tourists from the United States, as well as from remote parts of Canada, again visited this favorite stream. The close seasons were well observed. Mill owners were not so troublesome as formerly, only two being fined last season.

The total value of Lake Huron division, exclusive of Georgian Bay, is reckoned at \$89,751.

#### LAKE AND RIVER ST. CLAIR DIVISION, INCLUDING THAMES RIVER.

*Overseer C. W. Raymond*, who attends to the upper part of Lake St. Clair, reports that there was no fishing done in the division under his charge.

*Overseer A. Quenneville*, whose division comprises part of Lake St. Clair, in the vicinity of the Thames River, sends no report, but his statistical returns show an average yield of fish, especially of the coarser grades.

*Overseer T. McQueen's* division extends from the mouth of the River Thames to Lewisville. Twenty out of twenty-three fishing stations in his district were fished, giving employment to 112 persons. Owing to the severity of the winter, which precluded open water fishing till late in the spring, there is a slight decline in the yield of this division. More pike were taken than usual. The close seasons were invariably well observed.

*Overseer John Crotty*, who has charge of the central portion of the Thames River from Lewisville to Wardsville, reports a very poor catch owing to the high water and late spring.

*Overseer P. McCann* has charge of the upper portion of the Thames River. He reports a fair catch. Bass fishing was very good on the upper reaches of the river. No net fishing is carried on in this district. Some persons were suspected of having speared fish, but the Overseer failed to catch them or to procure sufficient evidence to prosecute. Two new fishways were built during the last summer to replace those carried away by the ice. The total value of the fisheries of the Thames River division is reckoned at \$21,268.

#### DETROIT RIVER DIVISION.

*Mr. Joseph Boismier*, who has charge of this division, reports an increase of 75 per cent. in whitefish. This he attributes to the millions of fry distributed in these waters by Canadian and American hatcheries during the past few years. The decrease in herring is as noticeable as is the surplus in whitefish. There was a decline also in sturgeon and pickerel. The total value of the fisheries of this division is given at \$19,643, being a deficit of nearly \$10,000 as compared with 1887.

#### LAKE ERIE DIVISION.

##### *Point Pelée Island.*

*Overseer James Cummins*, who has charge of the fisheries around Pelée Island reports a decrease in the yield of whitefish of 50 per cent. In 1887 the catch of herring was returned at 105,563 lbs. and this season at 566,720 lbs., a difference of 461,157 lbs. The catch of pickerel and bass was larger than for the last few years. Sturgeon is on the decline. The total value of the fisheries of this district is estimated at \$37,956, being an increase of over 200 per cent. over last year. There were 26 pound-nets fished in this division.



*Point Pelée—Mainland.*

*Overseer Wm. Prosser's* division extends from the mouth of Detroit River to the county line of Kent. Forty-two pound-nets were fishing in these waters. There is a shortage in almost every kind of fish except pickerel and coarse fish, but it is the more noticeable in whitefish and herring, the latter being 772,500 lbs. less than the catch of last year, which was an unprecedented one. The total catch nearly reaches 3,000,000 lbs. valued at \$149,428, showing a decrease of \$41,766 from last season.

*Overseer J. McMichael*, whose division comprises that part of the coast of Lake Erie fronting on the County of Kent, reports an increased yield in the fisheries of his division, which he ascribes to greater number of fishermen, and to their use of improved outfit, although individual catches did not, in several instances, come up to average. Fishermen were rather late in beginning operations. A splendid run of whitefish visited this coast in the beginning of the season. They were the largest ever seen, some tipping the scales at fifteen pounds. The fall run struck more on the south shore of the lake than on ours. The returns of this division show a surplus over last year's catch of whitefish of 18,246 pounds. The fifty-two pound-nets which are fished in this district were frequently visited during the close season, and it was ascertained that they contained no whitefish. The total value of the fish produce is given at \$107,390.

*Overseer J. McMichael* is also charged with the next division of Elgin, left vacant by the removal of *Alexander McBride*. Whitefish is on the increase; the returns showing a catch of 68,000 pounds over that of the previous year. Fishermen in this division are well equipped with tugs, good boats, and are better prepared to prosecute their calling in all kinds of weather, when inferior crafts are compelled to seek shelter. The total value of this division is given at \$81,875.

*Overseer D. Sharp* has charge of that part of Lake Erie fronting on the County of Norfolk. His returns show an increase of 50 per cent. in whitefish, and nearly 100,000 pounds in herring. The total value of the fisheries of this division is given at \$48,398, exceeding last year's by about \$10,000.

*Overseers W. A. McCrea* and *W. P. Croome*, who attend to the Grand River, report a fair catch. The former says, he experienced much trouble during the close season. The fishways are working satisfactorily, especially the one at Dunnville since the improvements made to it by the Superintendent of the Canal. Trolling has improved, both below and above the dam. Mr. Croome states that pickerel were more plentiful this year than last. The close season was well observed in his portion of the river. The great drought which prevailed during the first part of the summer caused the water to fall so suddenly, that large quantities of spawn were left dry on the gravel beds and perished. Several private parties are engaged propagating speckled-trout, and it is hoped than those waters will soon be stocked with this game fish.

## LAKE ONTARIO DIVISION.

*Mr. Fred Kerr*, who has been acting fishery overseer in place of his late father, J. W. Kerr, has charge of the division extending from Moulton Bay, on Lake Erie, to Port Credit on Lake, Ontario, including Niagara River. He reports that the catch of all kinds of fish seems to have declined on Lake Erie. This he attributes to the large number of pound nets in the upper portion of the lake, which has the effect of scaring the fish into deeper waters.

In the Niagara River fishing was more satisfactory. Ciscoe herring were plentiful and of fair size. Sturgeon were abundant and commanded good prices, one fisherman alone taking 5,000 pounds. The scarcity of whitefish and salmon trout is now so well established in Lake Ontario that fishermen seldom fish for them. Various reasons are assumed to explain this disappearance of this most palatable of freshwater fish of our lakes. Some fishermen contend that ciscoes have become so numerous as to drive whitefish away from their usual feeding and spawning grounds. There is no doubt but ciscoes have become the staple fish of this division. Not only



have they become numerous, but they are of uncommonly large size, some weighing over three pounds. In fact, they have become of such importance that Mr. Kerr is in favor of having a close season for their protection during spawning time, and limiting the size of the mesh to 2 $\frac{3}{4}$  inches extension measure. No contraventions of the law were noticed. The total value of the fisheries of this division is set down at \$85,000.

*Overseer Chas. Gilchrist* has charge of that portion of Lake Ontario coast fronting on the County of Northumberland, together with Rice Lake. He reports a catch of 7,000 pounds of whitefish, while there was none in 1887. Maskinonge were plentiful, 220,000 pounds being returned, half of which were caught by Indians. There were 508 angling permits issued in Rice Lake, 100 of which were to Indians and 32 to foreigners. The total value of the fisheries in this district is put down at \$23,730, being an increase of \$7,330 over last year.

*Overseer N. Simmons*, in charge of the Trent River, reports an increase of fish, especially coarse fish. The total value of the fisheries of this division is given at \$10,580.

*Overseer Geo. B. McDermot* has charge of that portion of Lake Ontario extending from Oshawa Harbor to Ashbridge's Bay, as well as of Lake Scugog. He reports that the Lake Ontario portion is showing signs of renewed activity. Licenses were granted to nine boat fishermen for ciscoe fishing, and it is expected that 25 boats will engage in this fishery next season. As ciscoes are rapidly coming to the front as an edible fish, and the demand is always exceeding the supply; Mr. McDermot recommends the making of a close season to cover the spawning time, say, from 15th November to 15th December. He saw 10,000 of these fish taken from nets on the 28th November, and sixty per cent. were full of spawn, but not quite ready to flow. He is gathering more information on this point, so as to send a definite recommendation at a later date.

#### LAKE SCUGOG.

Fishing at Lake Scugog was in excess of last season, especially during the first part of the year; immense catches of black bass and maskinonge being made. The Indians of Scugog Island derive quite a revenue from the sale of their fish. The close seasons were thoroughly enforced; twelve parties being fined for violation of the "Fisheries Act." The only drawback in this division, is the annual lowering of the water in the lake by the large mills at Lindsay, which spoils fishing during the summer months, as it allows weeds to grow much quicker, making it impossible to troll during the latter part of August, September and October. This lowering of the water also destroys thousands of bass and maskinonge fry which are left high and dry when the water recedes from the spawning beds. This evil threatens to destroy all the benefits secured by six years of efficient protection, and should winter be prolonged and severe, thousands of black bass will be destroyed on account of the water freezing to the bottom in certain portions of the lake.

#### PRINCE EDWARD AND BAY OF QUINTÉ DIVISIONS.

*Overseer Chas. Wilkins*, who has charge of the Bay of Quinté division, reports an increase in the yield of all kinds of fish in his division, more especially in the finer grades, such as whitefish. This he attributes to the stocking of the bay with fry from the Newcastle hatchery. Whitefish made its appearance in Bay of Quinté earlier than formerly. Coarse fish were also more plentiful than for many years past.

*Mr. Wilkins* complains of the reluctance with which fishermen give returns of their catch. They always underrate it, apprehending that they would be charged increased fees for their next year's license. The total value of the fisheries of this district is reckoned at \$44,740.

*Overseer Joseph Redmond*, whose division comprises the coast of Lake Ontario around the County of Prince Edward, reports a slight improvement over last year's catch. In some localities known to be whitefish resorts, none were taken, but fair

catches of salmon trout took place instead, where none had been caught for years before, and *vice versa*. When one takes into consideration the enormous quantity of nets used between Kingston and Toronto, it is not to be wondered at that the yield of former years has materially declined. Mr. Redmond suggests planting some fry in the depleted waters of his division. The close seasons were well observed. The total value of the fisheries of this division is set at \$24,120.

#### LENNOX, ADDINGTON AND FRONTENAC DIVISION.

*Overseer A. D. Sills*, who has charge of the fisheries of the County of Lennox, reports that, though the number of fishermen has fallen, there is still a surplus over last year's catch. Owing to a vigorous surveillance, the close seasons were well observed, and not a single violation of the law came to his knowledge.

*Overseer R. R. Finkle*, who attends to that part of Lake Ontario fronting on the Township of Ernestown, states that owing to rough and unfavourable weather the catch has been inferior to that of previous years. With the help of guardians he can safely state that fishermen were compelled to respect the close seasons.

*Overseer George Lake*, who has charge of the inland waters of the County of Frontenac, reports a fair catch of salmon trout and herring. Other kinds of fish are scarcer, owing to the want of a suitable fish-pass in the dam at the foot of Bob's Lake. Some complaints were made against mill-owners which failed for want of evidence.

*Overseer Robert Gilbert*, who has charge of the upper waters of the County of Frontenac, states that owing to the prevention of netting, fish are again becoming plentiful. Occasionally one hears of good catches by angling or trolling; all used for home consumption. Several applications for licenses to use nets had to be refused. Close seasons were well observed, and no breaches of the law reported.

*Overseer H. R. Purcell*, who has charge of the inland waters of Addington, states that, generally speaking, fishing was not so good as in former years. This he attributes to the low state of the water, which caused the growth of weeds and impeded angling and trolling. This officer seized and destroyed five sets of hoop-nets and two small gill nets in lakes where netting is prohibited. Sawmill owners, with one exception, fairly complied with the regulations.

The total value of the fisheries of these divisions is set down at \$14,135.

#### WOLFE ISLAND AND KINGSTON DIVISIONS.

*Overseer Thos. Merritt*, who has charge of the lake shore fronting on the County of Frontenac, reports a decided improvement in all kinds of fish, except sturgeon. A particularly large run of herring visited this coast late in the fall and proved of excellent quality. Trolling and fly-fishing for bass on the shoals was good, and numerous sportsmen, especially from the States, visited these grounds.

*Overseer P. Kiel* attends to the fishing grounds around Wolfe Island. Fishing is not carried on so vigorously as formerly. The great demand for labor at other industries, the low price of fresh fish, and the seemingly perceptible absence of fish on our shores, explain the decrease in the catch. A great waste of young fish is made by foreign sportsmen for bating hooks. Another plausible explanation of the scarcity of whitefish and salmon-trout in the waters of this division, is that, their feeding and breeding grounds are visited early in the spring by schools of pickerel, pike and other ravenous fish who winter in the muddy bottom bays on the other side of the boundary.

The total value of the fisheries of Wolfe and Kingston divisions is given at \$4,631.

#### LEEDS, LANARK AND RIDEAU DIVISIONS.

*Overseers W. H. Johnston, Jas. Greer and Wm. Hicks* have charge of Charleston, Gananoque and other lakes in County of Leeds. No netting being allowed in these



waters, all fishing is done by angling. There should be a fishway at the outlet of Charleston Lake, for the better protection of the fisheries.

*Overseers Geo. Jeacle, A. E. Mills and Guy Reid*, have charge of the Rideau River and Lakes. The former reports angling and trolling for bass and pike as very good. These waters are becoming quite a summer resort for city people camping out. Residents complain that they are refused the privilege of netting for coarse fish. Mr. Jeacle destroyed several nets and fined four parties for illegal fishing.

*Overseer Mills* also seized and confiscated some small nets and destroyed most of them.

#### RENFREW COUNTY DIVISION.

*Overseers A. Telfer*, of Breaside, and *M. L. Russell*, of Renfrew, have charge of the Bonnechere River.

*Overseers John Grant and Arch. Acheson* have charge of the River Ottawa fronting on the County of Renfrew.

*Overseers McKibbin, Douglas and Belanger* have charge of inland lakes.

The fisheries in this division are non-important, no net fishing being allowed. The total value only amounts to \$5,688.

#### ROCKPORT, BROCKVILLE AND CORNWALL DIVISIONS.

*Overseers J. G. Wallace, H. Hunt, W. Poole, T. McGarity and John Mooney* have charge of the River St. Lawrence from Gananoque to Glengarry. Net fishing and spearing are not allowed in those waters, but angling only. The 226 boats returned in this division, are kept for the purpose of hire to tourists and visitors spending the summer months in the different towns bordering the St. Lawrence. The principal kinds of fish are, bass, 19,300 lbs., pickerel and maskinongé 8,500 lbs. each. The total value of the fish caught by anglers only amounts to \$3,057.

#### PRESCOTT, RUSSELL AND CARLETON COUNTIES DIVISION.

*Overseers P. St. Pierre*, of Point Fortune, *Olivier Miron*, of Alfred, and *W. W. Boucher*, of South March, report fish getting scarcer in the Ottawa River fronting the above named counties. This they attribute to the want of a fishway in the Government dam at Carillon. The total value of the products of these waters only amounts to \$5,475.

#### LAKE NIPISSING DIVISION.

*Overseer J. S. Richardson*, who has charge of the northern side of Lake Nipissing states that the principal kinds of fish are, pickerel 15,000 lbs., and pike 24,650 lbs. The close season was fairly observed. He recommends that spearing for sturgeon should either be licensed or prohibited altogether, as it is now attempted by boys who often only wound them, and when they die remain to pollute the water. The total value of the fisheries was estimated at \$3,230.

*Overseer B. Sweezy*, who has charge of the south shore of Lake Nipissing, made no report.

#### PARRY SOUND AND MUSKOKA DIVISIONS.

*Overseer E. C. Roper*, who has charge of the inland waters, east of Lake Rosseau, reports a general observance of all fishery laws. Two cases of illegal netting were brought to his notice, and immediately dealt with.

*Overseer G. R. Steele*, of Lorimer Lake, who has charge of the inland waters of Parry Sound, reports fair compliance with various close seasons, as no irregularities were detected, except one violation of the Sawdust Act. The offender was fined.

*Overseer A. H. Smith* has charge of the Lakes Joseph, Rosseau, Muskoka, &c., in the District of Parry Sound. The season opened early. With the exception of bass



which was scarce, fishing proved highly successful to anglers and trollers. Pickerel were clean, bright, and of a good size. At the head of Lake Rosseau ten to sixteen pound pickerel were common; while a twenty-eight pound lunge was landed from Sparrow Lake. Tourists were not quite so numerous during last summer, but the influx of hunters, including foreigners, was larger. Game is more attractive than fish. Spearing is almost completely stamped out; the only offenders being river-drivers, and coarse fish their aim. The most difficult question to manage is the sawdust nuisance. Mill owners seem well disposed to comply with the statute, some even going so far as to spend \$3,000 in erecting iron burners, which he is sorry to say, proved defective. Open burners in the lakes should also be condemned. Mr. Smith, suggests a solution to the nuisance by giving a mercantile value to the sawdust, and to this end he writes:—

“Build furnaces to burn the solid waste with a flue forty or more feet long on an inclined plane, before the smoke-stack is reached. Revolving in this flue is a cylinder that projects beyond the elbow formed by the smoke-stack where a pulley is affixed to the outside of the cylinder, run by a belt to keep it revolving at a moderate speed. Then the end of the cylinder enters a box or chute where it is cut off at an angle forming a spout to load itself with the sawdust thrown into the chute. The other end of the cylinder projects beyond the furnace, where another pulley and belt is affixed. When the sawdust is sufficiently carbonized it is let out at this end. If too coarse it can be ground in one of the churn-like mills used to grind hemlock bark; then, while warm, mix it with very thin liquid glue, the consistency of size should be sufficient and press in dry powdered moulds for all articles where *papier-maché* and celluloid are used. Being ground fine and carbonized it should have a very fine grain, and be susceptible of a high polish. The suggestion may appear chimerical, but I expect to see it done and prove far more profitable than sawdust car-wheels. In the meantime the perplexing question remains: How is the sawdust nuisance to be abated?”

*Overseer J. G. Rumsey*, of Huntsville, who has charge of the inland waters of twelve townships in Parry Sound and Muskoka, reports that the only fishing in his district is done by sportsmen and few settlers for local consumption. Speckled trout appears to be getting scarcer. This may explain why tourists were not so numerous as formerly. This decline may be attributed to the want of fish-passes in the dam at Burk's Falls. It is highly desirable that these waters be protected, as they are known to be exceedingly well adapted for speckled trout.

#### CARDWELL DIVISION.

*Overseer Robt. Stewart*, who has charge of the inland waters of the County Cardwell, makes no report, but estimates the value of trout and bass caught in his division during last season at only \$150.

#### WELLINGTON COUNTY DIVISION, INCLUDING CREDIT RIVER.

*Overseer Andrew Hughson*, of Orangeville and *W. Hull*, of Erin, who have charge of the River Credit, report, that considering the dry summer, fishing was fair. Fish were more plentiful last season than formerly, especially speckled trout. The total value of fish in this division is estimated at \$8,130.

#### LAKES SIMCOE AND COUCHICHING DIVISION.

*Overseer Wm. Hastings*, who has charge of the south shore of Lake Simcoe, reports having seized two nets, one south of Beaverton and the other north of Point Marling. The close seasons were fairly observed.

*Overseer L. S. Sanders*, who has charge of the north shore of Lake Simcoe, sends no report.

*Overseer Wm. McDermot*, who attends to the inland waters of the County of Simcoe, estimates the value of the fisheries at \$4,000. The principal kinds of fish

are maskinongé, pike, bass and herring. Fishing is all done by angling and trolling, and for domestic use only.

*Overseer Fred. Webber* looks after Lake Couchiching and the Severn River. He reports a steady improvement in all kinds of fish, excepting speckled-trout. In the case of black bass especially, this gratifying result is due to the extension of the close season and generally to the better observance of the fishery laws. Maskinongé are still scarce in Lake Couchiching, but the prevention of spearing in the spring will soon cause them to attain their former standing. Old anglers and tourists, from the States who make the Severn River their favorite quarters, report it better than ever. The decline in speckled-trout is due to extreme lowness of water during winter months, causing the destruction of many young fish. A gentleman placed, last year, a number of trout fry in Coldwater River and other parties intend to follow his example. A novelty was noticed last summer in Lake Couchiching in the shape of a large school of whitefish. The Indians say that these fish have only been noticed since a year; they are, no doubt, the result of artificial fish breeding; some fry having been placed in the above named lake by the officer in charge of Newcastle hatchery a few years ago. The fishery laws were generally well observed. A case of illegal fishing came before this officer, and the offender, a notorious poacher, was committed to jail in default of payment. Information was also laid against two parties for similar offences, but the defendants have so far evaded service of the summons. A gill net was seized, but the owner could not be found and it was destroyed. Chippewa Indians give considerable trouble; a couple of seizures of speared whitefish, brought to town by these Indians, had to be made. The whole catch of the fisheries of this division is estimated at 54,000 lbs., the principal kinds being bass, pickerel, pike and maskinongé.

#### VICTORIA COUNTY DIVISION.

*Overseer J. R. Graham* has control of the inland waters in the County of Victoria, north of Sturgeon Lake. The principal kinds of fish are bass and maskinongé. The former yielded 28,000 lbs. and the latter 20,000 lbs. The close season was generally well observed and he received no complaints whatever. He inspected the different saw-mills of his district and did not detect anything to warrant proceedings. The total value of the fisheries is given at \$3,475, being a slight increase over last year.

#### PETERBORO' COUNTY DIVISION.

*Overseers Geo. Cochrane*, of Lakefield, and *J. Dauncey*, of Minden, have charge of all the lakes and streams in Peterborough County. They report a good catch of maskinongé and bass. All the fish caught in this division, valued at \$16,000, is disposed of on local markets.

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### SPECIAL REPORT OF CAPT. ALFRED F. HOLMES ON THE FISHERIES OF GEORGIAN BAY, LAKE HURON, &c.

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NAPANEE, 4th December, 1888.

HON. CHARLES H. TUPPER,  
Minister of Marine and Fisheries.

SIR,—Pursuant to instructions, I proceeded to Portsmouth on the 2nd July and took charge of the steamer "Cruiser," then undergoing repairs. On the 21st July the steamer proceeded on its voyage to Windsor, where I found instructions awaiting me, and in accordance therewith, sailed for Colpoys' Bay, where I was joined by *Overseer Shackleton* for a tour of his district.



From Collingwood I sailed to Owen Sound, taking advantage of the opportunity to verify the compass on the "Boulton Ranges," after which I called at Tobermoray, the principal fishing station in Overseer Shackleton's district. I learnt that the fishermen were in the habit of leaving home in the spring for the various fishing grounds without obtaining licenses; that they were all using undersized nets; that they threw overboard the fish offals on their way to the shipping station, and would fish during the close season whenever they thought they could do so with impunity. This state of affairs necessitates the presence on the fishing grounds of an inspector with a vessel, as by this means only can the fishery laws be enforced, and illegal practices punished.

Tobermoray, I found to be the headquarters of an average of 20 fishing boats, each using from 10,000 to 15,000 yards of gill nets, and two small tugs which were said to fish upwards of 20,000 yards each. But this I could not verify, as the men in charge claimed 15,000 yards to be the utmost set by them. All the boats were using nets of  $4\frac{1}{2}$  to 5-inch mesh. The smaller mesh nets however, were old ones, which they fished by permission of the Department until used up, when, they promised they would comply with the Department's orders and replace them by nets of legal mesh. I cautioned them with regard to the disposal of fish offals and other provisions of the law.

I ascertained that up to the 17th of August, the catch of whitefish had reached the average and realized good prices, while the catch of trout exceeded the average take. Messrs. Clark & McKay, and Allen Porter, of Wiarton, each send a tug capable of carrying forty cars\* of fish on alternate days, and pay the fishermen 8 cents a piece for the fish without culling, excepting "dead fish."

Overseer Shackleton having collected his license fees, I left for Wingfield Basin. This is one of the best natural harbors on Georgian Bay, there being an average of four fathoms of water with mud bottom. It is also well sheltered, but owing to a bar at the mouth, which could be removed for about \$2,000, I could not enter with my vessel.

Overseer Shackleton and I went ashore to collect fees and make a general inspection, the result of which was that we found about the same state of things prevailing as at Tobermoray.

I seized 600 yards of undersized nets ( $4\frac{1}{2}$  inches mesh) from a fisherman, who informed me he would use undersized nets as long as he could get them. These I gave to Overseer Shackleton to keep at Colpoy's Bay. There were eight boats making their headquarters here, each fishing about 12,000 yards of net.

From here I ran to Dyer's Bay, and ascertained that the prosecutions of last year had caused mill owners to respect the law regarding the disposal of sawdust.

Lion's Head Village was next visited. I found but one boat fishing here with very little success.

On returning to Colpoy's Bay and finding much dissatisfaction among the fishermen about the pound nets of Messrs. Allan & Porter, I proceeded to Wiarton and ascertained that the nets complained of were set for the purpose of procuring ova for the Government hatcheries.

Overseer Miller, of Owen Sound, joined me at Collingwood and stated that no fishing was going on at present in his division, but that after 1st October the fishermen now fishing at Tobermoray and on the north shore would move to the vicinity of Point William and Griffith's Island.

The above being applicable to Overseer S. Frazer's district also, I intended investigating the north end of Georgian Bay, but the weather proving unpropitious I ran into Meaford, and warned Mr. MacIntosh, a fish buyer, against continuing to use small meshes after the present season, and as he had been in the habit of buying, during the close season, for his freezer, gave him to understand that the law would be rigidly enforced.

On my way to Cabot's Head, I called at Wingfield Basin where the fishermen promised to observe the close season and not renew their small meshed nets. Bad weather compelled me to make Tobermory Harbor for shelter, after which I visited



Rattlesnake Harbor, but found it deserted.

At Club Island Station there were twenty-four boats and one tug fishing an average of 12,000 yards of nets each. These nets were principally  $4\frac{1}{2}$  to  $4\frac{3}{4}$  inch mesh, but fishermen promised not to use them again. The catch and prices were up to the average. The nuisance of fish offals was avoided here by converting them into oil.

At Squaw Island Station I found over fifty boats and three tugs, the former operating from 10,000 to 12,000 yards of net each and the latter over 20,000 yards each. This fishing station is controlled by the Messrs. Noble of Killarney. Here also were the nets of small mesh. Fish offals were rendered into oil. Fishermen reported catch and prices fair.

On arriving at French River, our feed pumps having broken down, I got a small tug to run over us to the Bustard Islands, where I had been led to expect to find American fishermen and every description of illegal fishing, instead of which I found the reputed Americans to be Canadians, and the only men I had met with who fished in accordance with the law. Their fish were purchased by Mr. Davis, of Detroit, uncultured at 8 cents a piece, and are carried by steamer to Alpena, Michigan. There are three establishments here, owned by Porter & McLeod, of Warton, Lincoln of Southampton, and McLean of Goderich, respectively, fishing about 8 boats each, the catch of which was not quite up to the average, which they attribute rather to the 5 inch mesh than to a scarcity of fish.

I then visited Killarney, but as my presence was not needed there, I proceeded to Mudge Bay, Manitoulin Islands, the eastern limit of pound net fishing in the north channel. Arriving at Mudge Bay, I learned Messrs. J. & C. Noble had been fishing 4 pound nets which were not up to the legal size. The catch, which was shipped to Buffalo, was reported fair.

I ran into Gore Bay from stress of weather, but was unable to ascertain the whereabouts of Overseer Brinkman, so I decided to call upon Captain Wilson, fishery overseer at Sault Ste. Marie. I saw quite a number of pound nets on my passage up, but having no plan of licensed limits decided to wait for the overseer. As Captain Wilson was unable to accompany me, I went down to see overseer John Marks, of St. Joseph's Island, but found that he had gone to Sault Ste. Marie. The lightkeeper at Sister Rocks, Mr. Weightman, however, being familiar with the fishing grounds, I took him to examine Stephen Frechette's pound net at Portlock harbor. Frechette is a licensed fisherman, who reported a very poor catch, attributable rather to improper fishing than scarcity of fish. His net was also undersized the heart having 3 inch meshes. Accompanied by lightkeeper Weightman, I left for Bruce Mines, to visit the pound net fishermen of St. Joseph's Island, but learnt that the Bruce Mines men had abandoned those fishing grounds for others below Thessalon, and near Mississauga River.

I found four pound nets in the vicinity of Tenby Bay and Kaskawong River, two owned by Mr. Sims and one by Malcolm Matheson. These three were licensed. The other pound was owned by American fishermen, living on Drummond Island, and said to be in American waters, though others contended it was in Canadian waters. Having no means of determining the boundary, I did not interfere with this net. I found a small trap-net inside the Kaskawong River, set for bass and pike, for which I could find no owner, and had it removed. The catch of fish in this locality was reported fair, and was bought principally by the Buffalo Fish Company and Davis of Detroit, at average prices. Nets, as usual, undersized.

Arriving at Sault St. Marie, I was joined by Overseer Wilson for a tour of his district. On the way down stress of water and a leaking boiler delayed us at Campement D' Ours Island. Leaving here I ran into Bruce Mines for shelter, and sent to Thessalon for guardian Strain. Overseer Marks joined me here and reports all fishermen in his district licensed. He was in doubt as to the position of the net set by American fishermen. Guardian Strain having arrived I started for Mississauga River. Below Thessalon I found three licensed pound nets belonging to Messrs Marks and Dobie. Good catches and prices reported. Fish shipped by line boats to Canadian ports. From here I ran over to the Grants, where I found three boats fishing for

Mr. Gauthier, each operating about 10,000 yards of gill nets. They reported a fair catch during the summer; whitefish now getting scarcer, and salmon trout more plentiful. They also reported a large catch of sturgeon. Fish offals were here rendered into oil.

I next visited Mississauga River, where Mr. Gauthier has three licensed pound-nets, all with undersized mesh. Men reported fair catch throughout summer, but now getting scarcer. Examined pound-net fished by Mr. Gauthier, at Algoma Mills, and found the meshes undersized.

At Spanish River, I found a net set partially across the channel and less than one mile from the mouth of the river. I ordered the men to take this net up which they did.

Guardian *Strain* returned to Thessalon and the steamer proceeded to Killarney, where Overseer Wilson distributed his licenses and made his collections. Here preparations had been made for carrying fishery operations during the close season, but the presence of the "Cruiser" and other efforts to prevent it effectually balked any organized action.

At Manitowaning I met Overseer A. Brinkman, and we proceeded on the north side of the island. I found four pound-nets owned by Mr. Gauthier, at Bayfields Sound, their catch being pickerel, bass and sturgeon, with a few whitefish and trout. Returns smaller than last season. These nets were all of undersized mesh.

I next visited Rattlesnake Bay, where I found two pound nets owned by Mr. Gauthier, to which the above remarks also apply.

At Meldrum Bay I found there had been no fishing this season, as well as at Cockburn Island, next visited.

I then proceeded to Sault St. Marie, where I landed overseer Wilson from whom I had received invaluable assistance.

I had intended calling at different points between this and Collingwood, but bad weather on the way down and consequent consumption of coal decided me to proceed to that port.

From here I ran to Midland, calling at Penetanguishene on the way. At Midland Overseer Samuel Fraser came on board and reported no fishing then going on in his district. Overseer F. J. M. Fraser was away at the northern end of his division, so I moved on to Parry Sound, and found all the fishing grounds on my way up deserted except at Moose Deer Point, where there were two licensed boats fishing. They reported a good catch and good prices; fish disposed of to Anderson Co., of Midland. They also stated that whitefish and trout were then (14th October) beginning to spawn, which I verified by personal observation.

On arriving at Mink Islands, I found no safe harbors and too much sea on to effect a landing, so I continued on to Point au Barril. This station was entirely deserted, the fishermen having left for Griffiths Island and other fishing stations. Ascertaining that Byng Inlet and Duffy Island fishermen had either left or were about leaving for their homes at Collingwood, I started for Parry Sound. Heavy winds and thick weather compelled me to make Shawanaga village, where I met ex-Overseer James, who reported the season's fishing good; the catch being shipped to Buffalo. I found that the trout were running in very thick and were then (16th October) spawning on the shoals.

On my way to Parry Sound I noticed at the Mink Islands that all but two boats had left the fishing grounds, and these were preparing to do so when their nets could be lifted. At Parry Sound I found several fishermen from Limestone, Bustard's, Minks, and Point au Barril, on their way to Collingwood, Meaford, and Owen Sound, apparently satisfied that the presence of the "Cruiser" and other risks would make it worth their while to observe the close season. They reported the catch up to the average during the season, and trout then (16th October) very plentiful on the shoals, some having already spawned. I proceeded down the inside channel, north of Parry Island, to Penetanguishene.

I was detained at Collingwood by stress of weather, and while there most of the fishing boats belonging to that port came in and stripped for the winter. I got



reports from Tobermory, Club Islands, Squaw Island and Killarney, and from all north shore points, which latter I ascertained were abandoned till the spring, as were also Club and Squaw Islands. But four boats were fishing at Tobermory, none at Wingfield Basin and not over half a dozen at Killarney, which would strip and lay up as soon as the nets out could be raised. The reason given for the suspension of operations being that buyers and fishermen would not take risks during the close season, as the Department was in a position to watch them.

I heard, however, that fishing during the close season was contemplated at Griffiths Island and Port William, so I moved on to Owen Sound intending to take Overseer Miller with me, but receiving a telegram on 31st October to lay the vessel up, I stripped her, stored her stuff and left instructions with Overseer Miller to dry dock her.

As the result of my observation I append suggestions for the Minister's consideration, and believe that I am fully justified in saying that while the presence of the "Cruiser" has been the means of causing the close season to be observed this year, unless something is done to limit pound-net fishing, to enforce the legal mesh for gill nets, and to limit the quantity set; the valuable fishing grounds of Georgian Bay and Lake Huron will be practically worthless in the course of ten years.

#### SUMMARY.

As the result of my season's labors, I beg to append the following summary:—

##### 1.—GOVERNMENT POUND NETS IN COLPOY'S BAY.

These nets are licensed for the purpose of procuring ova for the Government hatcheries.

The spawning time for whitefish and trout being now well established as between 15th October and 1st December, and that of bass between 1st April and middle of June, with slight variations due to temperature; I am of the opinion that these nets which are now set during the whole season in waters where such fishing engines are prohibited, should be limited to the periods necessary for providing the hatcheries with ova; that is to say during the above mentioned dates, as under the present arrangement half as many fish are destroyed as can be produced by artificial hatching. Another incentive to the adoption of this suggestion is the dissatisfaction prevailing among the fishermen who are refused the privilege of using such fishing engines in the above named waters, which I am quite convinced would thus be allayed.

##### 2.—LICENSE FEE ON GILL-NETS.

The present fee of \$5 per boat might be deemed sufficient were fishermen limited to 6,000 yards of 5-inch mesh nets; but as almost without exception I found them fishing double that quantity of undersized nets, the fee should be at least \$12, and the fishermen should be compelled to comply with the law regarding the size of mesh.

The fee of \$25 for steam tugs should be strictly adhered to, though there is a movement on foot to endeavor to have it decreased during the coming winter.

##### 3.—TIME LIMIT FOR SMALL MESHES.

When the Department issued the notice prohibiting the use of small meshes (1885) fishermen were granted a tacit permission to use up those on hand, on the distinct understanding that all new nets should be of the regulation size; but as no time was limited for the expiration of this leniency the fishermen have not adhered to the arrangement, and have yielded to the temptation of renewing their nets with undersized meshes, which they will continue to do until a date is specified after which all nets must be of legal mesh, or the importation of small mesh nets prohibited.



#### 4.—LICENSES.

A prevalent practice is for the "buyer" of a particular locality to apply for, and obtain the licenses for all the fishermen whose fish he purchases. By retaining these till the end of the season he secures a sort of hold on the fishermen to the extent of practically controlling their catch. This practice also affords a plausible excuse to the fishermen for the non-production of a license when demanded by the fishery officer.

As a remedial measure, and because of the destructible nature of a paper license, I would suggest that every fisherman to whom a license has been issued, or for whom one has been obtained, should be supplied with a small metal tag, properly stamped with a device not easily counterfeited, bearing its number, the quantity of nets licensed and the year for which issued. I would also, suggest that fishing boats be numbered, and a record of them kept at the Department; thus enabling the inspector to detect unlicensed boats after sufficient time had been allowed to obtain licenses.

#### 5.—POUND-NETS.

I would strongly advise that no more pound-net licenses be issued under any circumstances, for the following reasons: Owing to the small size of the meshes, large quantities of fish are caught which are too small to be of any marketable value; hence they are thrown overboard to rot and foul the fishing grounds, and the large numbers caught in these nets as compared with gill nets accounts for the greatly reduced catch reported from year to year. The fouling of fishing grounds by dead fish and offals is well known to cause the fish to desert the localities where such practice prevails, and to this, as well as to the large numbers of pound-nets set, is to be attributed the depletion of the whitefish fisheries of Lakes Ontario, Erie and Huron, especially on the American side.

From conversations with fishermen of from twenty to forty years experience, I am induced to believe, that it would be greatly to the interests of the fisheries and the fishermen were pound-nets entirely prohibited, at least for a term of years. But should this be deemed too abrupt a measure, without one or two years' notice, then I would recommend that the leaders be of 2 or 3 inch mesh, and the hearts not less than  $4\frac{1}{2}$  or 5 inch, thus allowing the smaller fish to escape, instead of destroying everything which comes into the pound. No doubt, this measure cannot be adopted without meeting with vigorous opposition from the fish "buyers" in Canadian waters, who have no regard for the future of these valuable fisheries, so long as their present needs are supplied; but, I have reason to believe that the *bona fide* fishermen, and all others interested in the perpetuation of the Canadian fisheries would approve of any action on the part of the Government, with a view to fostering and protecting the valuable interests from which they derive their livelihoods.

#### 6.—UNITED STATES' FISHERMEN IN CANADIAN WATERS.

*Lake Ontario*:—From personal observation and diligent enquiry, I am warranted in saying that fishermen come over from Sackett's Harbor and Cape Vincent, more especially during the months of September and October, set their nets in the vicinity of Amherst Island, and the Ducks, lift their nets and return before the overseer can get there.

*Lake Erie*:—So far as I have been able to learn United States' fishermen do not resort to Canadian waters. With a few exceptions in the vicinity of Drummond Island, where the boundary line is not well defined, there are no Americans fishing in the waters of Lake Huron.

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CONCLUSION:

The presence of the "Cruiser" has had a very beneficial effect in showing the fishermen and others that it is the intention of the Government to protect their valuable interests without unduly interfering with legitimate operations; and I have ample proof that this fact alone prevented attempts being made up to the time of my leaving, to fish during the close season.

With a vigorous system of protection and the adoption of the above suggestions there is every reason to hope for permanent preservation of the important fisheries of the great lakes.

I have the honor to be, Sir,

Your obedient servant,

ALFRED F. HOLMES,

*In Command of Government Steamer "Cruiser."*

## ONTA

RETURN of the Number and Value of Vessels, Boats and Fishing Materials, the  
in the Province of Ontario,

NAMES OF STATIONS.	VESSELS AND BOATS EMPLOYED.						
	Tugs.				Boats.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.
<i>Lake Superior Division.</i>							
Point Porphyry			\$			\$	
Thunder Bay	2	45	1000	4	9	800	18
Welcome Islands					7	500	14
Black Bay	2	80	1800	6	7	600	14
Roche Debut					3	175	6
Nepigon Bay					8	750	16
Jackfish Bay					10	1000	20
Caribou Island					4	600	9
Lizard Island					2	200	4
Mica Bay	2	98	8000	10	15	2800	35
North Mamainse					2	300	4
Pancake Bay					3	450	6
Gros Cap					1	45	3
Michipicoten Bay					2	100	4
Dog River	1	9	1000	6	1	50	2
Totals	7	232	11800	26	78	8870	163
<i>Manitoulin Islands.</i>							
Macbeth Bay					2	400	4
Grand Sable					2	400	3
Grand Batture	2	40	7000	14	2	400	4
Spanish Bay					4	800	10
South and Michael Bays	2	52	1600	10	15	1450	45
Club Island	1	30	900	5	9	800	29
Squaw Island	6	80	18000	30	50	5000	110
Manitowaning							
Kagawong					3	275	9
Duck Islands	4	75	14000	20	20	5000	50
Cape Robert	2	30	7000	12	3	600	12
Rattlesnake Island					1	204	4
St. Joseph's Island					4	800	10
Manitoulin Island (North side)	2	80	6000	6	5	1000	15
Totals	19	387	54500	97	120	17129	305



## RIO.

Number of Men Employed, &c., with the Kinds, Quantities and Values of Fish for the Year 1888.

FISHING MATERIALS.						KINDS OF FISH.								VALUE.
Gill Nets.		Seines.		Pound Nets.										
Fathoms.	Value.	Fathoms.	Value.	No.	Value.	Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Sturgeon, lbs.	Pickarel, lbs.	Coarse fish, lbs.	Fish used for Home Consumption, lbs.	
	\$		\$		\$									\$ cts.
25000	1500					180	64000	38000	30					11,020 00
18000	1080					200	46000	28000	110				20000	10,180 00
20000	1200					150	59000	30000	140					10,620 00
9000	540			10	2500			10000		42218	90219	30000		9,846 22
22000	1300					150	57000	36700	200					11,700 00
30000	1800					130	80000	44500	150				10000	13,950 00
21600	1800					50			450					5,600 00
3600	600					25			400					4,250 00
1500	4500			2	1560	30	320500	320500	20	3800				58,418 00
7500	750					20	23780	23780	10					4,580 40
12750	1125					10	18000	15000	10	8500				3,650 00
				1	350		2500							200 00
125	80					13								130 00
18000	1800			2	1200		12000	5000						1,460 00
							57800	75800	200					14,204 00
189075	18075			15	5610	958	740580	627280	1720	54518	90219	30000	30000	159,238 62
				2	1100		41230	6650		110				3,970 00
				3	1700	13	34100	6200		80				3,482 80
				4	1600		30000	40000		20000	25000			9,100 00
2000	800			6	2400		16000	10000		30000	40000			6,480 00
50900	9500	70	250	2	300	300	266715	350963	1600				4000	75,553 50
15000	2800					500	200710	44100	250				1500	28,011 80
103500	20700					560	992000	300000	120	2000	60000		10000	120,180 00
						101		105						1,020 50
				5	700	50	74263		575	46614	1000		2000	15,107 88
100000	12000			8	4000		160000	400000		15000	25000			55,200 00
3000	3000			5	2000		120000	40000		20000	2000			14,520 00
				2	800		10000	2000		5000	3000			1,480 00
				7	3500	138	53170	22000	15	3000	7200		1500	8,640 60
				4	2000		75000						1800	6,054 00
274400	48800	70	250	48	20100	1662	2073188	1222018	2560	141804	163200		20800	349,201 08

## RETURN of the Number and Value of Vessels, Boats

NAMES OF STATIONS.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIALS.					
	Tugs.			Boats.			Gill Nets.		Seines.		Pound Nets.	Hoop Nets.
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
<i>Georgian Bay Division.</i>			\$			\$		\$		\$	\$	\$
Bustard Islands.....	1	20	1000	3	18	3000	46	138000	8000	.....	.....	.....
Byng Inlet.....	.....	.....	.....	11	1980	32	800000	6800	.....	.....	.....	.....
McKay Island.....	1	25	1800	5	.....	.....	30000	2400	.....	.....	.....	.....
Point au Baril.....	.....	.....	.....	7	1200	15	40000	3200	.....	.....	.....	.....
Mink Island.....	.....	.....	.....	10	1750	23	70000	5600	.....	.....	.....	.....
Moose Deer Point.....	.....	.....	.....	5	800	12	35000	2800	.....	.....	.....	.....
Sturgeon and Machalash Bays	.....	.....	.....	.....	.....	.....	.....	.....	200	600	.....	12 100
From Victoria Harbor to Allenwood.....	.....	.....	.....	15	1490	32	50850	4096	.....	.....	.....	6 60
Nottawasaga River.....	.....	.....	.....	1	175	3	.....	.....	200	250	.....	.....
Collingwood.....	2	75	7000	8	5	700	10	6000	900	.....	.....	.....
Meaford.....	2	40	4300	8	10	1500	25	12000	1800	.....	.....	.....
Vail's Point.....	.....	.....	.....	7	1000	14	8000	1200	.....	.....	.....	.....
Owen Sound.....	1	15	3000	4	6	1000	12	18000	2700	.....	.....	.....
Colpoys' Bay to Cape Hurd.....	7	147	24000	26	37	8000	113	223440	55860	.....	.....	.....
Totals.....	14	322	41100	54	132	22595	337	1431090	95156	400	850	18 160
<i>Lake Huron Division.</i>												
Fighting Islands.....	.....	.....	.....	15	2000	45	35000	4000	.....	.....	.....	.....
Sauble Beach.....	.....	.....	.....	6	120	24	.....	.....	1200	5000	.....	.....
Saugeen and River.....	.....	.....	.....	2	500	6	2000	600	.....	.....	.....	.....
Port Elgin.....	.....	.....	.....	2	100	4	.....	.....	.....	.....	.....	.....
Inverburon.....	.....	.....	.....	2	260	6	1800	400	.....	.....	.....	.....
Kincardine.....	.....	.....	.....	5	1250	20	50000	6500	.....	.....	.....	.....
Goderich.....	.....	.....	.....	1	300	3	18000	800	.....	.....	.....	.....
Bayfield.....	.....	.....	.....	2	240	5	10000	600	.....	.....	.....	.....
Grand Bend.....	.....	.....	.....	8	127	30	.....	.....	9600	600	.....	.....
Blue Point.....	.....	.....	.....	6	700	13	.....	.....	.....	.....	9 2250	.....
Stony Point.....	.....	.....	.....	4	330	7	.....	.....	.....	.....	4 900	.....
Kettle Point.....	.....	.....	.....	13	1200	26	.....	.....	.....	.....	15 2800	.....
Hillsborough.....	.....	.....	.....	13	2000	18	.....	.....	.....	.....	10 2200	.....
Lake Shore.....	.....	.....	.....	13	300	36	.....	.....	1600	1500	.....	.....
Old Military Reserve.....	.....	.....	.....	2	30	8	.....	.....	100	150	.....	.....
Point Edward.....	.....	.....	.....	6	275	25	.....	.....	118	560	.....	.....
Totals.....	.....	.....	.....	100	9732	276	116800	12900	12618	7810	38 8150	.....

## and Fishing Materials, &amp;c.—Ontario—Continued.

KINDS OF FISH.												Fish used for Home Consumption, lbs.	VALUE.	
Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Herring, brls.	Herring, fresh, lbs.	Sturgeon, lbs.	Maskinonge, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse Fish, lbs.		\$	cts.
200	500000	100000	175	100	.....	9000	2500	48000	42000	2000	40000	40000	62,740	00
250	26400	30000	100	50	.....	20000	.....	20000	15000	500	5000	30000	13,187	00
75	100000	12000	40	60	.....	1100	.....	10000	50000	.....	70000	12000	16,716	00
50	100000	20000	50	.....	.....	500	.....	7000	2000	.....	3000	5000	11,810	00
100	250000	6000	50	50	.....	500	.....	2000	2500	.....	.....	4000	22,720	00
40	60000	3000	20	150	.....	.....	.....	3000	2000	.....	5000	6000	6,930	00
.....	.....	.....	.....	.....	.....	.....	.....	.....	70000	.....	25000	3000	5,040	00
56	90700	71000	62	445	6000	.....	.....	.....	15000	4000	21829	.....	19,370	87
10	10000	60000	15	40	.....	6000	.....	.....	400	.....	300	.....	7,603	00
26	100000	120000	30	.....	.....	.....	.....	.....	800	.....	1000	20000	21,178	00
.....	30000	15000	20	.....	.....	.....	.....	.....	500	.....	800	5000	4,304	00
.....	20000	50000	25	.....	.....	.....	.....	.....	1000	.....	500	3000	7,015	00
.....	10000	30000	40	10	.....	.....	.....	.....	800	.....	1200	30000	5,224	00
75	1068900	910000	450	120	.....	.....	.....	.....	11000	.....	.....	.....	182,902	00
876	2366000	1427000	1077	1025	6000	37100	2500	90000	213000	6500	173629	158000	386,739	87
600	.....	.....	400	1000	.....	.....	.....	.....	.....	.....	.....	.....	14,000	00
.....	.....	.....	.....	500	2500	.....	.....	.....	.....	.....	.....	.....	2,125	00
.....	20000	68000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,400	00
.....	.....	.....	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	160	00
.....	1000	900	.....	35	.....	.....	.....	.....	.....	.....	.....	.....	310	00
.....	50000	22000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,200	00
.....	17000	.....	30	70	.....	.....	.....	.....	.....	.....	.....	.....	1,940	00
.....	200	22600	40	46	.....	.....	.....	.....	.....	.....	.....	.....	2,860	00
.....	13000	2050	.....	4	3200	2350	.....	.....	13900	.....	3200	.....	2,492	00
.....	.....	950	.....	95	15000	48300	.....	.....	41200	.....	10400	.....	6,907	00
.....	5800	4670	.....	13	4000	15500	.....	.....	11420	.....	6200	.....	2,984	20
.....	5750	7200	5	167	40600	50700	.....	.....	34784	.....	7080	.....	9,269	26
.....	3800	7000	.....	200	.....	80500	.....	.....	50000	.....	.....	.....	9,634	00
.....	.....	500	.....	420	18000	50500	.....	.....	32000	.....	.....	.....	7,580	00
.....	.....	.....	.....	200	4000	.....	.....	.....	.....	.....	.....	.....	1,000	00
.....	.....	.....	.....	800	125000	24000	.....	.....	50000	.....	.....	.....	13,890	00
600	116550	135870	475	3590	212300	271850	.....	.....	233301	.....	26880	.....	89,751	46



## RETURN of the Number and Value of Vessels, Boats,

NAME OF STATIONS.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIALS.						
	Vessels or Tugs.				Boats.		Gill Nets.		Seines.		Pound Nets.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	
<i>River and Lake St. Clair Division (including Thames River).</i>			\$			\$		\$		\$		\$	
Sarnia Bay.....					1	20	5		40	40			
Indian Reserve.....					7	110	25		260	270			
Moore.....					5	80	23		200	240			
Sombra.....					4	70	14		125	125			
Sydenham River.....					2	20	8		100	105			
Thames River.....					20	230	28		678	706			
Stony Point.....					10	480	50		5100	5100			
Totals .....					49	1010	153		6503	6586			
<i>Detroit River Division.</i>													
Detroit River, Peach Island and Point Bois Blanc Island.	1	5	1500	2	27	1375	121		27	3250	7	1950	
<i>Lake Erie Division.</i>													
Point Pelée (Island) .....					12	1437	38				26	4565	
do (Mainland).....					42	3830	67				42	11300	
Romney to Oxford .....					41	2945	74	400	32	200	175	52	18442
New Glasgow.....					1	100	3				4	1500	
Eagle.....					2	250	3				4	1500	
Tyrconel.....					6	725	6				7	3500	
Port Stanley.....	2	50	5000	10	14	2550	17				10	3500	
Port Bruce.....	2	16	2600	6	7	700	13				10	3500	
Port Burwell.....	2	22	5100	6	9	156	12				9	3050	
Long Point .....					6	180	22	1950	235				
From Houton to Rainham, in- cluding Inner and Outer Bays and Turkey Point.....	3	33	5900	3	41	2635	108	6020	560	3000	2355	25	7545
Cayuga to Moulton Bay, in- cluding Grand River.....	3	15	400	6	10	268	24	1545	175	103	355	3	1000
Low Banks to Fort Erie.....					16	615	42	3140	760	545	639	2	1200
Totals .....	12	136	18400	31	207	16391	429	13055	1762	3848	3515	194	60602

## and Fishing Materials, &amp;c.—Ontario—Continued.

		KINDS OF FISH.										Fish used for Home Consumption, lbs.	VALUE.
No.	Hoop Nets.	Value.	Whitefish, lbs.	Trout, lbs.	Herring, brls.	Herring, fresh, lbs.	Sturgeon, lbs.	Mackinongé, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse Fish, lbs.	
		\$											\$ cts.
.....	.....	.....	.....	.....	120	18200	500	.....	.....	2100	600	.....	1,576 00
.....	.....	.....	.....	.....	800	42300	1800	.....	.....	16200	.....	.....	6,395 00
.....	.....	.....	.....	.....	620	38000	.....	.....	.....	.....	.....	.....	4,380 00
.....	.....	.....	.....	.....	300	92000	.....	.....	.....	10000	.....	.....	6,400 00
.....	.....	.....	.....	.....	.....	.....	60	.....	.....	775	520	14200	504 10
.....	.....	30200	46800	.....	.....	141800	1480	3826	3875	72535	8475	51192	21,268 67
.....	.....	.....	.....	.....	.....	.....	6600	4500	7600	6500	2400	12700	2,073 00
.....	.....	30200	46800	1846	332300	10380	8386	11475	108110	11995	78092	9340	42,594 77
.....	.....	100070	.....	.....	.....	124850	26275	850	2000	12020	9750	80000	19,643 30
.....	.....	14500	.....	.....	.....	566720	6516	.....	33375	68980	15246	38880	37,956 96
.....	.....	71770	.....	.....	.....	2621500	33700	.....	45000	66500	.....	130000	149,428 60
.....	.....	74500	.....	.....	.....	1594850	158500	460	2460	111124	42640	106730	107,390 04
.....	.....	3880	.....	.....	.....	106200	4210	.....	.....	5200	.....	2800	6,269 00
.....	.....	10500	.....	.....	.....	80000	10182	.....	.....	10314	.....	2000	6,129 76
.....	.....	24000	.....	.....	.....	111553	6470	.....	.....	28190	.....	1500	9,622 25
.....	.....	36600	.....	.....	.....	48200	33000	.....	.....	186000	.....	28000	19,318 00
.....	.....	58490	.....	.....	.....	91320	31021	.....	.....	233221	.....	23600	25,789 72
.....	.....	26983	.....	.....	.....	60100	35500	.....	.....	121200	.....	26000	15,345 64
.....	.....	.....	.....	.....	.....	.....	36000	.....	.....	.....	10600	.....	2,690 00
.....	.....	64625	.....	.....	.....	470663	93282	1000	6298	180360	19084	62810	48,398 05
10	60	3338	.....	.....	.....	48820	9200	200	4186	47842	19070	40800	8,571 22
.....	.....	650	.....	.....	.....	134250	12000	.....	500	27640	.....	7450	9,395 40
10	60	369836	.....	.....	.....	5934176	469581	1660	91819	1086571	106640	469970	446,304 64

## RETURN of the Number and Value of Vessels, Boats

NAMES OF STATIONS.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIALS.					
	Vessels or Tugs.				Boats.		Gill Nets.		Seines.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
<i>Lake Ontario Division (including Niagara River).</i>			\$			\$		\$		\$		\$
Queenstown and Niagara.....	...	...	...	...	14	740	38	10850	1150	525	325	*3 520
Grantham to Winona .....	...	...	...	...	24	940	41	13800	1690	235	180	.....
Burlington Beach .....	...	...	...	...	23	1503	42	19350	2315	1725	750	.....
Bronte to Humber Bay.....	...	...	...	...	21	1950	53	37400	4120	180	180	.....
Oshawa to Ashbridge Bay.....	1	15	800	3	11	1040	29	33000	4060	.....	.....	.....
Ashbridge Bay to Port Union....	...	...	...	...	6	750	16	8000	1080	125	125	10 20
Brighton to Bowmanville. ....	...	...	...	...	23	905	59	4750	460	300	350	28 280
Rice Lake .....	...	...	...	...	...	...	...	...	...	...	...	.....
Trent River .....	...	...	...	...	...	...	...	...	...	...	4	120
Totals .....	1	15	800	3	111	6788	249	94150	10815	3090	1910	45 940
<i>Prince Edward County and Bay of Quinté Division.</i>												
Wellington Beach.....	3	30	8000	9	42	840	96	41250	3200	1350	500	30 250
Weller's Beach .....												
Smith's Bay .....												
Bay of Quinté .....	1	30	300	3	72	1900	223	1500	375	3000	3205	110 2450
Ameliasburg .....												
Sophiasburg .....												
Thurlow .....	...	...	...	...	...	...	...	...	...	...	...	.....
Tyendenaga .....	...	...	...	...	...	...	...	...	...	...	...	.....
Totals .....	4	60	8300	12	114	2740	319	42750	3575	4350	3705	140 2700

\*Machines.



## and Fishing Materials, &amp;c.—Ontario—Continued.

KINDS OF FISH.												Fish used for Home Consumption, lbs.	VALUE.	
Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Herring, barrels.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinonge, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse Fish, lbs.		\$	cts.
.....	1600	25	210	206908	.....	12400	.....	13600	4950	.....	3600	.....	13,280	90
.....	2680	2600	.....	267700	600	100	.....	2200	500	300	2500	.....	14,153	40
.....	1100	.....	.....	353100	300	.....	.....	550	.....	2250	200	.....	17,912	50
.....	.....	100	.....	784000	2500	.....	.....	200	.....	1200	7800	.....	39,666	00
.....	.....	.....	.....	519000	200	.....	.....	.....	.....	23500	8100	.....	27,380	00
.....	10500	.....	.....	458250	.....	.....	.....	50	.....	3100	48000	.....	25,350	50
.....	7320	1820	.....	44000	.....	700	.....	.....	.....	.....	50700	.....	4,530	60
.....	.....	.....	.....	.....	.....	.....	220000	100000	.....	.....	.....	.....	19,200	00
.....	.....	.....	.....	.....	12000	3500	35000	30000	45000	25000	60000	.....	10,580	00
.....	23200	4545	210	2632958	15400	16700	255000	146600	50450	55350	180900	.....	172,053	90
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	120000	80000	.....	40000	.....	.....	.....	8000	10000	34000	16000	42000	24,126	00
141	98650	.....	450	188704	2700	720	1025	9110	43820	42048	611950	10000	44,740	60
141	218650	80000	450	228704	2700	720	1025	17110	53820	76048	627950	52000	68,860	60

[illegible]

## and Fishing Materials, &amp;c.—Ontario—Continued.

KINDS OF FISH.										Fish used for Home Consumption, lbs.	VALUE.	
Whitefish, lbs.	Trout, lbs.	Herring, brls.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinonge, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse Fish, lbs.	\$	cts.
45200	.....	.....	.....	.....	.....	.....	.....	47800	.....	54500	.....	8,119 00
12270	6150	.....	1000	.....	2150	.....	6100	37900	4100	4100	.....	4,743 60
1000	3600	.....	2500	600	.....	200	3000	2500	3000	6000	.....	1,273 00
58470	9750	.....	3500	600	2150	200	9100	88200	7100	64600	.....	14,135 60
1100	6000	.....	.....	.....	3000	.....	.....	.....	.....	.....	.....	868 00
.....	.....	.....	.....	.....	1000	.....	.....	200	300	100	.....	95 00
.....	.....	.....	.....	3000	.....	.....	.....	700	15300	20800	.....	90 00
.....	.....	.....	.....	200	1100	.....	2800	.....	2875	2600	.....	1,611 00
.....	.....	.....	.....	1500	.....	.....	4500	1600	18720	3600	.....	467 75
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,500 00
1100	6000	.....	.....	3200	6600	.....	7300	2500	39495	28100	.....	4,631 75
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	3700	4500	8500	19300	8560	4200	5800	.....	3,057 60
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1000	11500	11000	15000	21500	19500	30000	.....	5,475 00



## RETURN of the Number and Value of Vessels, Boats

NAMES OF STATIONS.	VESSELS AND BOATS EMPLOYED.						FISHING	
	Vessels.			Boats.			Gill Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.
			\$			\$		\$
<i>Leeds and Lanark Divisions.</i>								
Charleston Lake.....	1	12	25					
Beverly and Rideau Lakes .....								
Rideau and Jock Rivers .....								
From Smith's Falls to Long Reach .....								
River Tay and Tributaries .....								
Mississippi River and Lake .....	4	60	7					
Total.....	5	72	32					
<i>Renfrew County Division.</i>								
Ottawa River fronting on County, including Bonne- chère River.....								
<i>Lake Nipissing Division</i> ..	6	205	9	1600	530			
<i>Parry Sound and Muskoka Division</i> .....								
<i>Wellington County Division, including Credit River</i> .....								
<i>Lake Simcoe Division</i> .....								
<i>Lake Scugog Division</i> .....	113	1900	122					
<i>Victoria County Division</i> .....								
<i>Peterboro' County Division</i> .....	59	740	60					

## and Fishing Materials, &amp;c.—Ontario—Continued.

MATERIALS.				KINDS OF FISH.											VALUE.	
Pound Nets.		Hoop Nets.														
No.	Value.	No.	Value.	Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Herring, Fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinonge, lbs.	Bass, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse fish, lbs.	
	\$		\$													\$ cts.
...	...	5	125	50	10000	15000	75	...	...	...	...	6000	...	1000	20000	4,560 00
...	...	5	75	...	...	...	...	...	3500	...	5000	1000	...	3000	4000	330 00
...	...	...	...	...	...	...	...	...	...	...	...	4000	6500	6000	15000	1,890 00
...	...	...	...	...	...	...	...	...	1650	...	1000	6750	3200	8700	14000	1,611 00
...	...	...	...	...	...	...	...	...	...	...	...	1600	2000	1500	4000	411 00
...	...	...	...	...	...	...	...	...	...	...	...	5400	400	25000	20000	2,198 00
...	...	10	200	50	10000	15000	75	...	5150	...	6000	24750	12100	45200	77000	11,000 00
...	...	...	...	...	...	200	...	...	4900	4820	20600	14900	13650	21120	36000	5,688 20
...	...	...	...	...	6000	...	...	3800	...	4520	...	...	15000	24650	5200	3,229 70
...	...	...	...	...	400	32000	...	1200	...	...	1300	5000	13200	800	36000	5,582 00
...	...	...	...	...	...	7000	...	37000	62000	...	...	4000	...	3000	49000	8,130 00
...	...	...	...	...	...	19100	...	...	...	1800	12800	23500	22000	25000	15000	7,216 00
...	...	...	...	...	...	...	...	...	...	...	180000	70000	...	...	95000	17,850 00
...	...	...	...	...	...	...	...	3500	1000	...	20000	28000	2500	...	7000	3,475 00
...	...	...	...	...	...	18000	...	7000	...	...	121000	92000	...	...	36000	16,010 00





# RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Materials, &c.—Province of Ontario—Concluded.

NAMES OF DIVISIONS.	KINDS OF FISH.													Fish used for Home Consumption, lbs.	VALUE.
	Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herring, fresh, lbs.	Beals, lbs.	Sturgeon, lbs.	Maskegonage, lbs.	Basas, lbs.	Pickarel, lbs.	Pike, lbs.	Coarse Fish, lbs.		
Lake Superior Division.	953	740580	627280	1720	.....	.....	.....	54518	.....	.....	90219	.....	30000	30000	159,238 82
Manitoulin do	1662	2073188	1322018	2560	.....	.....	.....	141804	.....	.....	163200	.....	20800	20800	343,201 08
Georgian Bay do	876	2366000	1427000	1077	1025	6000	.....	37100	2500	90000	213000	6500	173629	158000	386,739 87
Lake Huron do	600	118550	135870	475	3690	212300	.....	271850	.....	.....	233301	.....	26880	26880	89,751 46
Lake and River St. Clair Division.	.....	30200	46800	.....	1840	332300	.....	10380	8386	11475	108110	11995	78092	9340	42,594 77
Detroit River Division	.....	100070	.....	.....	.....	124850	.....	26375	850	2000	12020	9750	80000	1300	19,643 30
Lake Erie do	.....	389336	.....	.....	.....	5934176	.....	469581	1660	91819	1086571	06640	469370	.....	446,304 84
Lake Ontario do	.....	23200	4545	.....	210	2632958	15600	16700	255000	146600	50450	55350	180900	.....	172,053 90
Prince Edward and Bay of Quinté	141	218650	80000	.....	450	228704	2700	720	1025	17110	53820	76048	627950	52000	68,860 80
Lennox, Addington and Frontenac.	.....	58470	9750	.....	.....	3500	600	2150	200	9100	88200	7100	64600	.....	14,135 60
Wolfe Island and Kingston Division.	.....	1100	6000	.....	.....	.....	3200	6600	.....	7300	2500	38495	28100	.....	4,631 75
Rockport, Brockville and Cornwall.	.....	.....	.....	.....	.....	.....	3700	4500	8500	19300	8560	4200	5800	.....	3,057 60
Prescott, Russell and Carleton	.....	.....	.....	.....	.....	.....	1000	11500	11000	15000	21500	19500	30000	.....	5,475 00
Leeds, Lanark and Rideau Division.	.....	10000	15000	75	.....	.....	5150	.....	6000	24750	12100	45200	77000	.....	11,000 00
Renfrew County Division.	50	.....	.....	.....	.....	.....	4900	4820	20600	14900	13650	21120	36000	.....	5,688 20
Lake Nipissing do	.....	6000	200	.....	.....	.....	3800	4520	.....	.....	15000	24650	5200	.....	3,229 70
Perry Sound and Muskoka Division.	.....	400	32000	.....	.....	1200	.....	.....	1300	5000	13200	800	36000	.....	5,582 00
Wellington County Division.	.....	.....	7000	.....	.....	37000	62000	.....	1800	4000	4000	3000	49000	.....	8,130 00
Lake Simcoe do	.....	.....	19100	.....	.....	.....	.....	.....	12800	23500	22000	25000	15000	.....	7,216 00
Lake Seabrook do	.....	.....	.....	.....	.....	.....	.....	.....	80000	70000	.....	.....	95000	.....	17,850 00
Lake Seabrook do	.....	.....	.....	.....	.....	.....	.....	.....	20000	28000	2500	.....	7000	.....	3,475 00
Lake Seabrook do	.....	.....	.....	.....	.....	.....	.....	.....	121000	92000	.....	.....	36000	.....	16,010 00
Peterboro' County do	.....	.....	18000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	4287	6134244	3650563	5907	7115	9527288	93850	1064818	650821	671854	2209901	455348	2152121	271440	1,839,869 09

## RECAPITULATION

Of the Yield and Value of the Fisheries in the Province of Ontario, during the Year 1888.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Whitefish.....	Brls. 4,287	10	00	42,870	00
do.....	Lbs. 6,134,244	0	08	490,739	52
Trout.....	Lbs. 3,650,563	0	10	365,056	30
do.....	Brls. 5,907	10	00	59,070	00
Herring.....	Brls. 7,115	4	00	28,460	00
do.....	Lbs. 9,527,288	0	05	476,364	40
Eels.....	Lbs. 99,850	0	06	5,991	00
Sturgeon.....	Lbs. 1,064,818	0	06	63,889	08
Maskinongé.....	Lbs. 650,821	0	06	39,049	26
Bass.....	Lbs. 671,854	0	06	40,311	24
Pickarel.....	Lbs. 2,209,901	0	06	132,594	06
Pike.....	Lbs. 455,348	0	05	22,767	40
Coarse fish.....	Lbs. 2,152,121	0	03	64,563	63
Home consumption.....	Lbs. 271,440	0	03	8,143	20
Total for 1888.....				1,839,669	09
do 1887.....				1,531,849	73
Increase.....				308,019	36

STATEMENT showing the Number and Value of Vessels and Boats and Fishing Material used in Ontario during the Year 1888.

	Value.
	\$
57 vessels or tugs (tonnage 1,142).....	135,600
1,473 boats.....	99,739
394,468 fathoms of nets.....	193,753
30,906 do seines.....	27,876
302 pound nets.....	96,412
318 hoop nets.....	5,240
	558,620

## APPENDIX No. 7.

## MANITOBA AND THE NORTH-WEST TERRITORIES.

ANNUAL REPORT OF THE FISHERIES FOR THE YEAR 1888, BY MR.  
ALEXANDER McQUEEN, INSPECTOR.

WINNIPEG, MANITOBA, 31st December, 1888.

HON. CHARLES H. TUPPER,  
Minister of Marine and Fisheries,  
Ottawa.

SIR,—I have the honor to submit my annual report on the fisheries of Manitoba and the North-West Territories, for the year ending 31st December, together with a summary of statistics and the reports of overseers and guardians under my supervision.

The area under my jurisdiction is very large, embracing as it does the whole of the Province, as well as the adjoining Territories, and it would be impossible, except at a great outlay, to fully test its resources. The districts within the Province have only been partially developed, yet, there are fish of various kinds in abundance. Overseer Gilchrist has charge in Assiniboia, but nothing has been done towards promoting the fishing industry much beyond the Qu'Appelle River and Long Lake Districts. In the territories of Alberta and Athabasca, nothing whatever has been done, but reports from Hudson's Bay officials and others, represent the lakes very numerous, and fish of various kinds plentiful in them. A beginning was made this year in the territory of Saskatchewan, one firm having tested Lake Winnipeg in the vicinity of Grand Rapids, and caught a large number of whitefish. I would again urge upon the Department the necessity for appointing, as in Assiniboia, an overseer for the districts of Alberta, Athabasca and Saskatchewan, to make a survey of the inland lakes and other waters in those localities, with a view to ascertaining the fishing resources of those as yet unexplored territories.

The catch this year has been very satisfactory, showing an increase upon that of the previous year.

Catch for 1887, 2,994,757 lbs., value.....	\$129,034
do 1888, 4,648,250 do .....	180,677

The Indian consumption was estimated last year at 1,500,000 lbs. for Manitoba, and is about the same again, this year. There is no way of even getting an approximate for the Territories, but Overseer Gilchrist, estimates the Indian catch in Assiniboia at 225,000 lbs. This would aggregate the Indian consumption, as far as known, at 1,725,000 lbs., valued at \$60,375. The total catch then for 1888, trade and home consumption, can safely be put at 6,373,250 lbs., valued at \$241,052. There has also been an increase in the number of men engaged in fishing. Two hundred and fifty-two licenses have been issued during the year, yielding a revenue of \$1,001 in fees, fines and forfeitures. With the exception of Messrs. Gauthier & Co., Robinson & Co. and Wright & Roberts, nearly all were small fishermen, using from three hundred to a thousand yards of gill net each. There has been no material increase in the plant and capital invested in the fisheries this year, and \$75,000 would cover the total amount.



The export to the United States amounted to 2,063,107 pounds, and with 2,585,143 pounds for home consumption, and 1,725,000 pounds used by Indians, makes the aggregate catch for 1888, 6,373,250 pounds.

#### THE CLOSE SEASON.

The close season this year has, according to the reports of overseers, been carefully observed by licensed fishermen and traders; but complaints still come in regarding the slaughter of whitefish by Indians during the vital period in the propagation of fish. I would recommend asking the co-operation of the Indian authorities in the direction of restricting the Indians from catching whitefish during the close season, by urging them to fish more in deep water and in the open season, instead of waiting till the spawning beds are covered and then catching them when in a helpless condition. A great deal of the good accomplished by a stringent enforcement of the regulations is negated by the wanton destruction of fish by Indians during the close season.

There is still some controversy as to the correct dates for a close season for whitefish, and I have been making diligent enquiries, as well as experiments, to fully test the matter. I am pretty well satisfied of the correctness of the existing dates, although in some localities if the period was extended somewhat later it might prove a still further protection. I have been catching fish at specific dates and forwarding them to Mr. Wilmot for examination. I sent some specimens of whitefish, as well as ova, to him in the early part of last season, together with my remarks thereon, which elicited the following reply:—

NEWCASTLE, ONT., 28th February, 1888.

ALEX. McQUEEN, Esq.,  
Inspector of Fisheries.

“DEAR SIR,—Your favor of the 11th inst. to hand, as well as other letters of a previous date relative to the spawning of whitefish in your waters. The samples of eggs in glass jars, came here in fair condition, but so far as the present appearances are concerned it would be impossible to form a very correct opinion as to their ripeness for emission by the parent fish.

“As mentioned in my previous letters I fully conclude that your whitefish spawn about the same time as they do on Lakes Erie and Huron—that is in November and December. We gather all our eggs of the whitefish for our hatcheries in November and after many years of practical application in the matter, we find November is the true month to gather them, as they are then in the ripest stage for impregnation. No doubt some eggs might be obtained in this stage even earlier than November, but they would be exceptional. There would also be found a number of eggs fit for laying in the beginning of December; but to form a general view of the matter, as to when the greatest bulk of the eggs are shed by the fish, November is certainly the month; and hence it is that the Department has considered that month as the most correct time to adopt as to the close season for whitefish. This same month is also undoubtedly the proper one for the close season for salmon trout.

“Whilst I am at all times anxious and willing to receive the views and opinions of the officers and fishermen regarding this important subject of the correct spawning season of fish, yet I have so frequently found them so varied, and so directly opposite in many cases, that I have been compelled to form the conclusions as to correct spawning times, from my own personal observations, coupled with the actual experience of my officers who annually collect the eggs for our several hatcheries, and this must surely be the best test, from the fact that unless the eggs are ripe, they will not flow from the parent fish, and if not ripe they will not become impregnated; so that after some 16 years experience of this kind, I feel assured that the conclusions I have come to, are based upon the most satisfactory evidence that can possibly be obtained. From this data then, and from the samples of eggs sent me from your Province, I can come to no other conclusion than that the close season for your whitefish should be the whole month of November. I am well aware, and your observation

will no doubt have been similar, that to take the *ipse dixit* of the fishermen themselves, would be most incorrect, for whilst they may catch and handle these fish, they are as a rule the poorest judges of the natural habits of fish, as they generally base their conclusions upon such premises as would least interfere with the benefits that would accrue to their own calling. Fish are most easily caught at spawning time, because they congregate together more closely to shed their eggs and milt together, within more circumscribed limits, and therefore, it is, that the fisherman would, from his own selfish motives, say: "This is our harvest time, and it should not be the close season." Fish dealers also hold this wicked idea.

"As far as the matter of food is concerned, there is no doubt whatever, that a whitefish or any other kind of fish is, comparatively speaking, unfit for food when killed during the spawning time; for the flesh, like that of every other animal in nature is at that time, in a soft, flabby and unwholesome state, and not a sound healthy article of food. Cows, sheep and other animals are forbidden by law to be put on the market for food, when in this advanced state of pregnancy. The same rule should apply to fish, as their flesh is not as wholesome as at other times when they are upon their feeding grounds putting on flesh. The old saying: "Ignorance is bliss," is too frequently applied here.

"I am yours very truly,

"SAM. WILMOT,

*"Superintendent of Fish Culture."*

#### FISHWAYS.

I find the regulations pretty well observed as to fishways, and there has been no illegal obstruction placed in any of the streams under my jurisdiction. Two dams were constructed during the year across the Qu'Appelle River, in each of which a legal fishway has been placed. The dam of the Manitoba and North-Western Railway Company, about which there was some complaint last spring, has been re-constructed, and a proper fishway placed therein. Owners of sawmills throughout the Province are rigidly observing the regulations in preventing sawdust and mill refuse getting into streams, to the injury of fish. One mill owner on Lake Manitoba complained against, redressed the grievance immediately upon being notified.

#### FISH CULTURE.

The question of the propagation of fish in this country is being widely discussed, and suggestions have been freely made as to the advisability of having a hatchery established in this country, with that end in view. There are quite a number of small lakes and streams in which German carp, black bass, and other kinds of fish might be placed with good results. Some experiments made by private enterprise, with black bass, notably in Shoal Lake, by General Superintendent Baker, of the Manitoba and North-Western Railway, are being looked forward to with the brightest anticipations. Should they be successful, others will doubtless follow his example; but I believe the Department of Fisheries could promote such experiments more successfully with a hatchery.

#### THE FISHERY TRADE.

The fishing industry is now becoming an important factor in the trade of this country, so much so, that the Board of Trade is taking cognizance of it, as one of vital importance in the future development of the Province. United States Consul Taylor, in a speech recently delivered in this city, referred to the fact that the adjoining North-western States and Territories would be dependent upon our lakes and rivers for a supply of fish, and he anticipates from this source a lucrative trade in the not distant future, for Manitoba. During the year Messrs. C. W. Gauthier & Co., William Robinson & Co., and Wright & Roberts, were the principal traders in Lake Winnipeg, and they gave employment to a large number of settlers as well as Indians.



C. W. Gauthier & Co., not only fish for themselves, but also purchase largely from smaller fishermen. They give their catch for the year ending 31st December, 1888, as follows :—

	Lbs.
Frozen whitefish.....	852,040
do pickerel.....	95,250
do pike.....	3,080
do sturgeon.....	12,180
do catfish.....	3,080
Salt fish, 934 barrels.....	186,800
Total.....	1,152,430

Subjoined is a statement of fish purchased by them, during the same period :—

	Lbs.
Whitefish.....	130,724
Pickrel.....	46,005
Pike.....	37,928
Sturgeon.....	2,480
Tullibee.....	5,106
Perch.....	997
Catfish.....	525
Total.....	223,765

The number of vessels, boats and men employed was as follows :—

	Value.
Tug "Glendevon," 7 men.....	\$8,000
do "Millie Howell," 6 men.....	3,500
Barge "New Brunswick," 2 men.....	3,000
14 fishing boats, 45 men.....	4,200
18,000 fathoms gill net at \$14 per 100 fathoms.....	2,500
1 pound net.....	200
1 pound net boat.....	100
Freezers, ice houses and other buildings.....	12,500
Total value of plant.....	\$33,500

Wm. Robinson & Co. fished on their own account as follows :—

	Lbs.
Whitefish, fresh.....	572,000
Pickrel do.....	5,700
Pike do.....	4,000
Sturgeon do.....	800
Trout do.....	2,100
Whitefish, salt, in barrels 2,030.....	406,000
Total.....	990,600

In addition to this they purchased, at Fairford and Lake St. Martin, 210,000 lbs. of whitefish, pickerel and pike.



Their plant consisted of the following :—

	Value.
2 steam tugs, 15 men.....	\$9,000
1 barge            2 do .....	2,000
8 boats            40 do .....	1,350
230 gill nets, 17,500 fathoms .....	2,450
10 ice houses and freezers.....	12,000
<b>Total value of plant.....</b>	<b>\$26,800</b>

Wright and Roberts report their catch as follows :—

	Lbs.
Salt whitefish, 312½ barrels.....	62,500
Fresh trout .....	10,000
<b>Total.....</b>	<b>72,500</b>

Their plant and men are given :—

2 boats, 4 men .....	\$600
20 gill nets, 1,166 fathoms .....	200
<b>Total value of plant.....</b>	<b>\$800</b>

There is a large number of other traders, but they operate on a smaller scale than the above firms. Upwards of one thousand persons, directly or indirectly, have found employment in connection with the fisheries.

#### EXPORT OF FISH.

Through the courtesy of Lieut. Col. T. Scott, collector of customs at the port of Winnipeg, I am enabled to submit the following statement of exports of fish for the year ending 31st December, 1888.

	1887.	1888.
Whitefish, (fresh).....Lbs.	841,480	1,249,109
do (salt)..... do	314,500	223,600
Pike or jackfish..... do	261,089	430,204
Pickereel or doré..... do	149,582	142,325
Tullibee... .. do	18,736	10,454
Perch. .... do	1,487	4,545
Catfish..... do	none	525
Gold eye..... do	3,621	none.
Sturgeon..... do	none	2,316
Suckers..... do	164	none.
Salmon Trout..... do	4,798	29
	<b>1,595,457</b>	<b>2,063,107</b>

This statement shows an increase in the export of fish to the United States of 467,650 lbs., over that of last year. While there has been an increase in the sale of whitefish, an interesting feature to note is, the large increase this year in the export of pike, the natural enemy of the whitefish.

The export for 1887, was entered at the Custom House at a value of \$65,441, that for 1888, at \$86,944. The exporters of fish during the past year were, C. W. Gauthier & Co., Wm. Robinson & Co., James Flannigan, A. G. Jackson, Hugh Armstrong, Blackwood Bros., Dominion Express Co., J. H. Davis, Smalley & Chantler, Reid & Co., and a number of other smaller dealers.

## REPORT OF THE UNITED STATES CONSUL.

Subjoined will be found an interesting report from the Hon. J. W. Taylor, United States Consul at Winnipeg.

## UNITED STATES CONSULATE,

WINNIPEG, 31st December, 1888.

A. McQUEEN, Esq.,  
Inspector of Fisheries,  
Winnipeg.

DEAR SIR,—In response to your request for a statement of the exportation of fish from this Consulate to the United States during 1888, and their distribution, I respectfully enclose the following tables:—

1.—*Exportation from Winnipeg.*

	Lbs.	Value.
Whitefish.....	1,166,113	\$56,595 87
Pickereel or doré.....	424,442	18,357 22
Jackfish or pike.....	360,195	11,127 74
Tullibee.....	9,638	271 56
Sturgeon.....	2,310	138 60
Perch.....	1,702	41 09
Catfish.....	525	26 25
Total.....	1,964,925	\$86,658 33

The distribution of the exportation was as follows:—

	Lbs.
Detroit, fresh fish.....	264,667
do preserved fish.....	363,037
Buffalo, fresh do.....	408,023
Chicago do do.....	328,425
do preserved do.....	118,078
St. Paul, fresh do.....	163,643
do preserved do.....	76,950
Minneapolis, fresh fish.....	59,194
do preserved fish.....	94,800
Omaha, fresh fish.....	59,108
Kansas City, fresh fish.....	24,000
Total.....	1,964,925

Fish frozen naturally and shipped in bulk during winter is free of duty, being considered "fresh fish for immediate consumption," but preserved fish, being salted or packed in boxes with alternate layers of ice, are subject to a duty of 50 cents per 100 lbs. The respective quantities, as above stated, were: Fresh fish or the winter export 1,312,060 lbs., and preserved fish 652,865 lbs.

2.—*Exportation from Port Arthur.*

The exportation of fish from Port Arthur, within this Consular District, consisting mostly of whitefish, and distributed to Chicago, Detroit and Buffalo, was during 1888:—Fresh fish 565,126 lbs., valued at \$22,746.60, and preserved fish 56,025 lbs., valued at \$2,177.76.

### 3.—Total exportation from Winnipeg Consular District.

The total exportation of fish from Central British America to the United States for 1888, may be stated as follows:—

From Winnipeg.....	1,964,925 lbs.	\$86,658 24
do Port Arthur .....	621,151 "	24,924 00
	<u>2,586,076 lbs.</u>	<u>\$111,582 24</u>

Of which 1,877,186 lbs. were fresh and 708,890 lbs. were preserved fish.

Very truly yours,

JAS. W. TAYLOR.

### REPORTS OF GUARDIANS.

The fishery guardians, with acquired experience, are beginning to do their work more satisfactorily; true, they have, in some localities, to endure considerable hardship at certain seasons of the year, but they, on the whole, give me a cordial support in seeing that the fishery regulations are observed, particularly during the close season. Subjoined will be found a synopsis of the reports of guardians:—

#### ST. LAURENT LAKE, MANITOBA.

*Guardian Daniel Devlin* reports having visited the following fishing grounds on the east shore of Lake Manitoba, from Totogan to St. Laurent and also from St. Laurent to Long Point, during his tour of inspection. Found the close seasons well observed. In a few instances was obliged to grant permission to destitute settlers to fish with one gill net about one hundred feet in length. With the exception of three seines, used at Clandeboyne Bay, all fishermen used the ordinary gill net. The quantity used amounted to about 5,000 fathoms, valued at \$1,000. They also used thirty-five boats or skiffs, valued at from \$10 to \$20 each. Their carrying capacity varied from 600 pounds to 1,000 pounds. One hundred and twenty-five men were engaged in fishing during the year. Of this number, twenty-five fished for their own use. 30,000 pounds of whitefish were marketed during the year, at an average rate of five cents per pound, realizing \$1,750; 140,000 pounds of pickerel, at three cents per pound, value \$4,200; 320,000 pounds of pike, at one and three-quarter cents per pound, value \$5,600; 10,000 pounds of tullibee, at two cents per pound, value \$200, making an aggregate value of \$11,750. The home consumption is estimated at 60,000 pounds whitefish, value \$3,000; 30,000 pickerel and pike, value \$775, making the total value \$3,775. The principal buyers were the Hudson's Bay Company, A. G. Hepworth, John McKenny, Pierre Chaboyer, Hugh Armstrong, John Morris and Smalley & Chantler.

#### BIG ISLAND, LAKE WINNIPEG.

*Guardian John Helgason* reports having visiting all fishing stations in this district extending from the boundary line of the Icelandic Reserve, between Townships 17 and 18, northwards, along the west shore of Lake Winnipeg, to Big Grindstone Point, a distance of 75 miles, including Big, Black and Deer Islands. Fishing operations in this district are chiefly carried on in winter, as summer fishing does not give profitable returns, especially the last three years, probably owing to the low stage of the water, not exceeding five or six fathoms, on an average, in many parts of the lake. This, of course, refers to whitefish, as various other kinds are caught in abundance. The Indians should be restricted during the close season in their slaughter of this staple product. The close season this year was observed fairly well, only one or two parties attempted to violate the law. They, however, complied with the regulations upon being notified. There is one saw-mill in this district at Drunken Point, the saw-



dust from which is being disposed of in accordance with the regulations. There is considerable dissatisfaction felt among the white people about the way Indians kill and waste such large quantities of whitefish during the spawning season. It is claimed that the extravagance is an injury to themselves, as well as to white settlers. This guardian started about the 20th November to make a tour of the district with a view to getting an estimate of the result of the fishing catch for the year, together with the quantity disposed of to the trade. He visited the principal fishing grounds and obtained considerable information from fishermen regarding their operations. Subjoined is a statement of the catch for the season:—

Whitefish.....	45,000 lbs.	valued at \$1,350
Pickarel.....	121,400	do 2,428
Pike.....	97,600	do 976
Tullibee.....	195,800	do 1,958
Mixed fish.....	192,000	do 960
	<u>651,800</u>	<u>do \$7 672</u>

The following quantity of the above was disposed to the trade:—

Whitefish.....	45,000 lbs.	valued at \$1,350
Pickarel.....	50,600	do 1,000
Tullibee.....	95,800	do 958
	<u>190,800</u>	<u>do \$3,308</u>

There were between thirty and forty men employed at the various fishing stations on the west shore. Besides these there were about 100 settlers, who fish the year round for their own use, many of them being very poor, and largely dependent on fishing for a livelihood. There were 25 boats in use during the season, all small and not exceeding in total value \$700; 8,060 fathoms of gill net were used, valued at \$1,560.

#### THE NARROWS—LAKE MANITOBA.

*Guardian H. Martineau* reports having visited the fishing grounds under his supervision, viz.: The west, east, north and north-east shores of Lake Manitoba, Ebb and Flow and Dog Lakes with the creeks and streams adjacent thereto. Found as a rule, that the close season was generally well observed. In one or two instances, where persons were in indigent circumstance, a permit was given them for their own use, with stated restrictions. A portable saw-mill was in operation for a short time during the summer on a small stream on Ebb and Flow Lake, and although precautions had been taken to prevent the deposit of sawdust in the lake, the force of the current was so great that it carried a portion of the debris into the lake, but on bringing the matter before the owner of the mill, the sawdust was removed at his own expense, and the mill also, so as to avert any danger in future. About 50 men found employment in connection with the fisheries during the year. There were 2,300 fathoms of gill net used, valued at \$900. One sloop of about ten tons, valued at \$200; one smaller sized boat of about five tons, valued at \$100; thirty small skiffs and as many birch bark canoes, worth from \$8 to \$30. This comprises the fishing fleet in his district. There were 35,000 whitefish sold to traders at an average of ten cents apiece, realizing \$3,500; 10,500 pickerel at 4 cents apiece, \$420; 15,400 pike at 5 cents apiece, \$770, making a total of \$4,590. All fish in the district are sold by the piece. The home consumption, apart from Indians, is estimated at 56,000 whitefish, valued at \$3,360; 3,000 pickerel, \$150; 5,000 pike, \$200, making the total for home consumption \$3,710. The principal buyers in this market are the Hudson's Bay Company, Wm. Sifton, A. G. Hepworth, John Munroe and Smalley & Chantler.

## BEREN'S RIVER—LAKE WINNIPEG.

*Guardian J. B. Johnson* reports having visited his district, extending from Big Grindstone Point to the mouth of the Little Saskatchewan River, on the west side of Lake Winnipeg, and from Loon Straits to Beren's River, on the east side, and embracing the following fishing stations: Humbug Bay, Bulls Head, Rabbit Point, Pigeon Bay, Beren's River, Swampy Island, Jack Head, Cat Head, Sturgeon Bay and Little Saskatchewan River. Visited Meagan's mill at Humbug Bay in July, where he was informed sawdust was escaping into the lake. Found milling operations had been suspended, and gave orders to have the refuse collected and consumed. Next visited Black Bear Island and Blood Vein River where Indians had been catching sturgeon and selling them to C. W. Gauthier & Co. At Beren's River, inspected the nets of this firm, complaints having been made that they were obstructing the channel at the mouth of the river. Found only one pound net in use, and that one was at least one mile from the mouth of the river. Visited Robinson's mill at Moose Creek and found everything satisfactory there, as well as at Brown and Rutherford's mill at Fisher Bay and the Selkirk Lumbering Company's mill at Fisher River. At Cat Head, found the Indians hostile, in regard to paying a license fee for the purpose of catching and selling fish to traders. The matter was explained at an Indian Council held. A similar complaint was found to exist at the Little Saskatchewan River, but the difficulty is being overcome, as the Indians now realize the difference fishing for their own use and fishing for the trade. Reports Indians fishing freely at Sandy Bar, Cat Head and Rabbit Point. The winter catch of fish in his district by licensed fishermen for the trade is estimated at 120,000 lbs. whitefish and 3,000 lbs. sturgeon, valued at \$5,000. The fall fishing by Indians at Beren's River, Rabbit Point and Loon Straits, has been in every way equal to that of former years. At Beren's River Reserve, some of the Indians secured their stock of winter fish within one mile of their homes. Fishing is also up to the standard, and notwithstanding the close proximity of the reserve to the fishing stations of large traders, who do an extensive business in summer fishing, there is as yet no depletion manifest in the supply. It would be well if Indians were prevented from catching so large a number of whitefish during the close season, as the wanton destruction by them during that season, only tends to neutralize the effects of the stringent fishing laws now being enforced. Reports six white men engaged in winter fishing, using four thousand fathoms of gill net, valued at \$560. There are besides 19 Indians licensed to fish using three thousand fathoms whose fees up to date, he had not collected, owing to Chief Beren advising his band not to pay. The Jack Head Indians did not fish this winter, neither did those at Rabbit Point, except three, the others being engaged in trapping owing to the great demand for furs. States that there are altogether in his district five bands of Indians, and it was difficult to give an accurate statement as to the quantity of fish caught for home consumption, from the fact that they decline given information, but thinks the estimate of last year, 200,000 lbs. about correct.

## SHOAL LAKE.

*Guardian J. A. Fraser* reports having visited the different fishing stations on Shoal Lake, a short distance north of Stonewall. Found only fourteen men engaged fishing in the district, using 750 fathoms of gill nets, valued at \$105. The boats used, skiffs and canoes, valued at \$100. The only kind of marketable fish found in Shoal Lake is pike. The total catch is placed at 98,270 lbs., of which 87,270 lbs. were sold to the trade at Reaburn Station, on the Canadian Pacific Railway, and at the town of Stonewall.

## FAIRFORD, LAKE MANITOBA.

*Guardian William Archer* reports having closely watched the fishing trade of his district during the past season. States that fishing was better at Fairford Narrows, Lake Manitoba, than for several years past. The catch of whitefish at the Narrows of Lake St. Martin, was less than last year, and is attributed to the shallow water



in the Little Saskatchewan, which prevented them reaching their usual spawning grounds. The catch in this district for the trade was 247,500 lbs of whitefish, 16,000 lbs. of pickerel, and valued at \$6,620 in Fairford. In addition to this, about 200,000 lbs. of different kinds of fish were caught by Indians and settlers for their own use. About a hundred persons were employed in fishing, using ninety boats and canoes, valued at \$700. They used 9,000 fathoms of gill net, valued at \$2,400. The principal buyers at Fairford during the year were: Wm. Robinson & Co., Hudson's Bay Company, Wm. Hepworth, John McKenny and Wm. Sifton. The fish caught in this district, like all others for the trade from Lake Manitoba, are hauled in sleighs a distance of 130 miles to Westbourne Station on the Manitoba and North-Western Railway, and to Reaburn Station on the Canadian Pacific Railway.

#### PORT ALEXANDER, LAKE WINNIPEG.

*Guardian John Wood* reports having kept a careful supervision over the various fishing stations in his district, extending from the north of Red River along the east side of Lake Winnipeg, as far north as Loon Straits. The catch in this district has been less than last year, owing to the fact of a portion of it, viz, Black, Deer and Big Islands having been assigned to the charge of Officer Helgason on the west side of the lake. The principal fishing points are Broken Head River, Grand Marais, Elk Island, Fort Alexander, Black River, Bad Throat River and Loon Straits.

The total catch for the trade for the past year was as follows: 20,000 pounds of whitefish, 10,000 pounds pickerel, 9,350 pounds pike, 11,000 pounds sturgeon, 14,000 pounds catfish and 7,500 pounds tullibee; all valued at \$2,417. Twenty-four fishermen took out licenses in this district to fish for the trade, and they had in use 4,000 fathoms of gill net, valued at \$800. They also had 20 boats and canoes engaged in fishing, one being a small tug; the total value being about \$800. He estimates the home consumption at 144,000 pounds of all kinds of fish, principally used by Indians.

#### RED RIVER DISTRICT.

In the immediate vicinity of Winnipeg, on the Red River, there were four licensed fishermen operating during the summer months, using five boats and four seines, and giving employment to seven other men. They caught 3,000 pounds whitefish, 40,000 pounds pickerel, 35,000 pounds pike, 1,000 pounds sturgeon, 2,500 pounds catfish and 75,000 pounds mixed fish, at an aggregate value for the catch of \$2,725. The total value of plant, consisting of boats and nets, being about \$300.

#### NORTH-WEST TERRITORIES.

As explained in a previous part of my report, there is little or no record of fishing in the adjoining territories, except in Assiniboia, which is under the able supervision of Overseer Gilchrist. I trust, however, to see some steps taken another year towards ascertaining the resources of other territories, particularly those of Alberta, in the vicinity of Calgary and Fort McLeod, where I am informed there are some excellent mountain trout. The waters of Athabasca and Saskatchewan are also highly spoken of, and the appointment of an overseer for each would result in securing information that might be useful in view of the early prospect of their being opened up to railway communication. I append hereto the report of Overseer Gilchrist for the year ending 31st December, 1888:—

ASSINIBOIA,

FORT QU'APPELLE, 31st December, 1888.

ALEX. MCQUEEN,

Inspector of Fisheries, Manitoba and North-West Territories.

SIR,—I beg to submit my Annual Report for the year ending 31st December, 1888, of the fisheries of the Qu'Appelle River and adjoining lakes.



The catch is a little larger than last year, and is as follows:—

	Lbs.	Value.
Whitefish.....	32,000	\$1,600
Tullibee .....	60,000	3,000
Pickarel .....	25,000	1,250
Pike .....	50,000	2,000
Total.....	167,000	\$7,850

The above is the quantity of fish sold or bartered, and does not include the fish caught by Indians in this district, which, placed at a low estimate, amounts to 225,000 lbs, at an average of 4 cents per pound. Exclusive of Indians, there are 27 men, with 19 boats worth \$228, and 128 nets, worth \$512, engaged in the business. License for a seine was issued to Clem Pelletier, but as he used the net to fish during the close season, he forfeited his license and was fined \$25.

Gill net licenses were issued to John Leader, Simon Blondeau and Baptiste Robillard to fish in the Qu'Appelle Lakes with four nets each. Great quantities are caught in the west and shipped along the line of the Canadian Pacific Railway, which come in competition with the catch of licensed fishermen, and cause considerable dissatisfaction. This is an injustice. The license system should be extended so as to place all upon the same footing. With the one exception noted above the regulations have been well observed by the whites, but the Indians are doing great damage through fishing in the close season. I would suggest and strongly urge upon our Honorable Minister the necessity of making some arrangement with the Indian Department, looking to the prevention of the wholesale destruction at present carried on in the close season by the Indians, and which is suicidal to the fishing interests of the country, as well as their own fish-food supply. The heads of the Indian Department in this country fully appreciate the great value of the fisheries to the Indians, and only require some definite and reasonable proposition, looking to the co-operation of the two departments, to act upon it.

Two dams were put across the Qu'Appelle River by the Department of Fisheries, one at Fort Qu'Appelle the other at Katepwe, each provided with a fishway. As they were not built until August, they have made but little difference in the height of the water, but next year I trust the fish will receive great benefit from them in an increased depth of water at spawning time.

I am pleased to be able to state that there is an apparent increase in the white-fish of the Qu'Appelle Lakes, to say nothing of the increased swarms of tullibee.

I have the honor to be, Sir,

Your obedient servant,

F. C. GILCHRIST,

*Fishery Overseer.*

## SPECIAL REPORT ON THE QU'APPELLE DISTRICT.

FORT QU'APPELLE, ASSA., 31st December, 1888.

SIR,—In furtherance of a wish evinced by the Deputy Minister of Fisheries, some time since, I beg to make a report upon some of the outlying fisheries and subjects pertaining thereto. At that time I expected to visit the Prince Albert and Battleford Districts as well as the foothills of the Rockies, but owing to circumstances requiring my presence elsewhere, my observations were not so extensive as they otherwise would have been and were confined to central, western and southern Assiniboia.

The extent and value of the fisheries of Assiniboia are very great, innumerable small and large lakes are distributed over its surface, that are teeming with white

fish, tullibee, pike, pickerel, perch, &c. In the Moose Mountains there are a number of fine clear water lakes, some of which have pike in large numbers, pickerel and ling. Some of the pike were large and plump with a great deal of internal fat. In the stomachs of those I examined I found a species of minnow, commonly called shiner, and sticklebacks in about equal quantities, and in one caught 4th December, a large frog. Some of these lakes are deep, 30 feet or more, and are well adapted to the growth of other and better fish. In the Touchwood Hills there are similar lakes containing pike, and others with only minnows and swarming with insect life. Many miles of the south branch of the Saskatchewan run through Assiniboia and in its waters are found pike, pickerel, perch, sturgeon and nearer the mountains several species of trout in its tributaries and the lakes from which they start. Great numbers of these trout are caught during the spawning season.

South-west of Swift Current a person by the name of J. Carpenter has netted large quantities of tullibee which he shipped along the line of the Canadian Pacific Railway to the different towns. I saw a number at Regina and they were full of ripe spawn. I am of the opinion that they were caught during the close season and with small meshed nets, for the measurement of the twine mark around the shoulders of many of the fish indicated a four-inch mesh. These lakes, as well as many others in the same district, are full of both varieties of whitefish and should receive careful attention immediately. I received information of a concern consisting of three men and outfit, that was about to begin operations in two of these lakes that were alive with whitefish. They calculated that by starting fishing about the 1st October they would, by Christmas time, have killed thirty tons of whitefish, and I have no doubt from what I know of the same lakes that they would have done so. I warned them of the consequences of fishing during the close season and they desisted. I give this as an instance of the piscine wealth of the country and the constant danger in which it stands. Another concern is carrying on fishing operations 100 miles or more north of Prince Albert, in some of the innumerable small lakes there. They estimate that their shipments to the American market will aggregate thirty tons or more, this winter, made up of trout and whitefish in about equal quantities. The proprietor told me he would use nothing but five inch or larger mesh. The whitefish average four pounds, the trout I saw, about fifty in all, ran about six pounds each, but they catch them as high as thirty pounds. They were in poor condition, the few I examined having very little or no internal fat. The following is a description of an eight-pound trout, 31 inches long, spent and poor in flesh. It had been caught three or four weeks before I saw it, was frozen and freighted 400 miles or more. Its coloring therefore was not good, but I have been very careful in my description of its structural points, at least of those that are essential to its proper location among the varieties to which it belongs. It belongs, I believe, to the species commonly called Mackinaw salmon in Lakes Huron and Superior, where I have seen great numbers of them. Head, back and sides above the lateral line are of a dingy brownish olive, irregularly spotted with light patches of same color; below the lateral line, color paler and more yellow and marked with same spots and running into a dull dead white, which is the color of the belly. Dorsal fin is same color as back and irregularly marked with lighter spots, caudal is paler than dorsal and faintly margined with dull red and irregularly patched with lighter colored spots. Pectoral anal and ventral are of a bright red color. Fins are all large. Second or adipose dorsal is placed over hind end of anal, is  $1\frac{1}{2}$  inch in length. Dorsal has 14 rays and is in the centre of the extreme length; anal has 11 rays; ventral 9 rays, is under centre of dorsal; pectoral 14, broad and pointed and 6 inches long. The caudal had 19 rays, was 9 inches from tip to tip and deeply forked. Eyes large and one half the distance from the snout to the nape of the neck. Tongue short, thick, with a row of sharp teeth upon each side; vomer, a bunch of teeth near front end with a double row extending back about one-half of an inch, 7 or 9 in all. Many sharp curved teeth on the palatines, maxillaries, superior maxillaries and the point of the lower jaw, which is the shortest and received into a cavity in the upper. The color of the flesh was a very pale buff and quality, upon the table boiled or fried, inferior,



which was perhaps greatly owing to its being out of season. I believe there are other varieties of salmon in the same part of the country where this was caught.

Crooked Lake, referred to in my annual report for 1887 was visited by me twice this fall, it is about 11 miles long and 1 mile wide. In the year 1874 according to some of the old Indians and a very intelligent officer of the Hudson's Bay Company, stationed there, at the time the lake was literally alive with both varieties of white fish. That was the year of the lowest water upon record, and was a very hot summer and early autumn. About the 1st September or a little before of that year, the white fish and tullibee commenced to die to such an extent that the Indians encamped along its shores were compelled to move away, owing to the intolerable stench of the decaying fish. In a very short time almost all the whitefish were dead, but no other kinds died to any noticeable degree. The Indians claim that the fish were in such numbers that they ate up all the food and then starved to death, but when I asked them whether the fish were very poor or not, they could tell me nothing about it. I am of the opinion that the lake is comparatively shallow which belief was strengthened by the Hudson's Bay Company's official saying that there was but one deep spot in it which was fifty or sixty feet beneath the surface and a couple of acres in extent.

It is a well known fact that in water at a temperature of 72° whitefish will die, and I think that the explanation of their dying in such numbers is, that owing to the extraordinary lowness of the water, the great heat of that summer raised the temperature to a point at or about 72° in the shallow water and if it was not raised to the same height in the deeper place, the absence of food, which would soon take place where so many fish were confined to the same small area, would force them to go into the shallower and warmer water, to seek for it and they would soon perish from suffocation. For some time after, no whitefish were seen but gradually the remaining few, replenished perhaps by others from the Qu'Appelle, where the above catastrophe did not take place, increased to such an extent as to make very fair netting, but the Indians, with their small meshed nets, which they use in and out of spawning seasons, soon reduced the lake to such a state that the total catch of *C. albus* this fall was less than a score of fish. The tullibee are fairly plentiful yet, but they are a hardier and more prolific fish than their cousins and are more given to migrating from one lake to another and thus quickly restocking a run down lake with their own species. It would perhaps be presumptuous for me to offer any suggestions in the matter, but I think that the above instance proves pretty conclusively that something should be done to try and get the Indians to observe the fishery regulations more than they do at present. The Indians along the Qu'Appelle Lakes observe the law regarding the size of mesh very well, they set no more fish traps across the river and they do not fish so extensively during close season as they did; all of which has resulted the last three years; and with pleasure I acknowledge the assistance rendered me by Indian Agent Lash, who is stationed upon one (Muscowpetung's) of the reserves near the lakes. Mr. Lash explained the reasons for my removing their traps, &c., to the Indians, and they were apparently satisfied, and I have had but little trouble with them since. He also stated to me that, during the last couple of years, he has seen a great improvement in the white fisheries.

Considerable discussion has been going on in this country about the advisability of placing in the waters of the Territories, varieties of fish that are not indigenous to them. It has been recommended that the large mouthed black bass be used for stocking our waters. There are many lakes where they would be a valuable addition to the list of fishes, for instance, Devil's Lake in the Pelley district, 10 by 5 miles; Leach Lake in the York Colony, 12 or 15 miles in length; Fishing Lake, 10 miles long, north-east of the Touchwood Hills, and many others that have pike and less valuable fish in them. I would, however, protest against putting them into waters that are connected with lakes where there are whitefish or are suited to stocking with the *coregoni*. In shallow lakes, with muddy bottoms and weeds, and where there are only the predacious varieties, they would do well, but my examination of the stomachs of hundreds, I have caught in the Otonabee, Trent and other rivers in



Ontario, led me to the conclusion that they were almost strictly piscivorous, preying very largely upon the young of other fish that had taken to the weeds for shelter. Unlike the small mouthed black bass which appears to hibernate in the winter, they are voracious the entire year. Prof. S. A. Forbes, in a paper read before the American Fisheries Society, stated that he found the large mouthed black bass was strictly a fisheater and that the small mouth made up one-third of his food with crayfish. The large mouth is much inferior to the small mouth in the pan and infinitely so upon the hook, but I believe they are better suited to the stocking of certain classes of our lakes than carp, because they are a better pan fish and can be caught at any time of the year by the most inexperienced person; they can be placed in a lake in company with the most predacious species of fish and will thrive; such a thing cannot be said of carp. Herr von dem Borne, the great German fish culturist, speaking of American black bass said: "I can breed the black bass with the same certainty as we do the carp, I have many thousands of young fish from a few spawners. I have only three small mouth and ten large mouth spawners. The fry of last season, barely six months old, are now growing finely." The small mouth black bass is well adapted for stocking many of our lakes, a splendid table fish, one of the finest upon a hook and tremendously prolific, it would be invaluable to the country. My experience with it in Rice Lake, Stony Lake, the Muskoka Lakes and other places in the east, where I have caught thousands of them and examined the stomachs of many, led me to believe that not one-third, as stated by Prof. Forbes, but fully one-half of its food was composed of crayfish, and the balance of insects and their larvæ, frogs, minnows, perch and the young of other fish. They breed and grow apace in clear water with clean, stony or gravelly bottom and where there is an abundance of crayfish, all of which can be found in many of the lakes of Assiniboia.

The maskinongé would be a valuable addition to the fishes of many of our lakes where at present there are only pike or pickerel.

Last spring I commenced a series of investigations into the conditions of the Qu'Appelle Lakes with a view to ascertaining the depth, temperature at the bottom at the various seasons of the year, formations of the bottoms, the insect and other fish food, &c.; but the necessity for my being away superintending the work upon the two dams built by your department across the Qu'Appelle River, compelled me to drop the work. I found that the pressure at a depth of sixty feet ruined my thermometer, an ordinary mercury affair. I think such investigations, carried on carefully, would furnish the department, at a very slight cost, with data of very great value in the near future, when the question of restocking these or other waters, arises. In all the lakes of the Qu'Appelle system, where the bottom is gravelly or stony, there is an abundance of crayfish. In Pasqua Lake after a storm lasting three or four days, I have seen the crayfish piled upon the shore to the depth of two inches. Every stone almost, at certain seasons of the year, has one or more crayfish under it. The whitefish eat the young of this crustacean in great quantities. The shrimps or water-fleas are in countless swarms in the Qu'Appelle Lakes and some of the small outlying lakes are literally alive with them. They are the favorite food of the *coregoni*. The larvæ of a species of diptera, blood red in color, jointed and one-half of an inch in length, also forms a large portion of their food. They are found in immense numbers in the soft mud at the bottom of the lakes. Several varieties of caddis worms, the larvæ of the phryganids, are found in these waters in large numbers, and are much sought after by the whitefish. They are said by fish culturists to be nearly always an indication of good water.

I have the honor to be, Sir,

Your obedient servant,

F. C. GILCHRIST.

*Fishery Overseer.*

HON. CHARLES H. TUPPER,  
Minister of Marine and Fisheries,  
Ottawa.

CRAVEN P. O., N.W.T., 31st December, 1888.

MR. ALEX. McQUEEN,  
Inspector of Fisheries,  
Manitoba and North-West Territories.

SIR,—I have the honor to submit a report on the fisheries of my district, Long Lake, N.W.T., for the year ended 31st December, 1888.

The close seasons for whitefish and pickerel have been duly respected by our settlers and fishermen, as well as the fishery regulations generally.

I am pleased to report an improvement in the catch of white and other fish as compared with the previous year. During the months of March and April the yield of whitefish was particularly good and fishermen thus engaged satisfactorily rewarded.

There were six outfits of white men engaged in fishing during the past year and the aggregate of nets used by them was 47

The following statement is based on information gathered from the fishermen and is as nearly correct as can be obtained:—

	Pounds.
Whitefish.....	7,300
Pike.....	6,500
Pickerel.....	1,000

A considerable number of buffalo fish and suckers are taken from these waters.

The former is a coarse, unmarketable fish, though the Indians eat them and consider them good food. The latter is a fair table fish but during cold weather only.

Several families of Indians from Piapot's Reserve and the Touchwood Hills' Agency visit Long Lake for the purpose of fishing.

They have had in use an average of 30 nets, and in the meantime angle extensively for pike and pickerel. Their catch is as follows:—

	Pounds.
Whitefish.....	2,500
Pike.....	11,000
Pickerel.....	500

In my district over the Qu'Appelle River several dams have been built for the purpose of overflowing the water on the hay marshes.

They are all provided with sluices, and those owning them assure me they will not be closed to the obstruction of fish, i.e., during the season fish are moving in the stream.

The whitefish of Long Lake seem a superior fish to those of the same species from other waters, and to my mind, it is a matter of importance that they receive all possible protection; and in this connection I beg to call your attention to the fact that during the entire existing close season, nearly all the female whitefish taken are full of spawn.

I would therefore strongly recommend a change that would more nearly accord in principle with the object of a close season.

I have the honor to be, Sir,  
Your obedient servant,

O. T. STONE,  
*Fishery Overseer for Long Lake and Neighborhood.*

## FINES AND FORFEITURES.

There has been but little occasion for the enforcement of the penalties attached to the Fishery Act, for a violation of the regulations during the year. This speaks well for the conduct of all identified with the fishery interests of a new country. All orders by myself and the overseers have been strictly obeyed, with perhaps one or two exceptions. Where the law, through ignorance or inadvertance, had been violated, prompt measures of redress were taken upon notification.

David Breyer a trader at Fort Alexander, Lake Winnipeg, was detected by Overseer Wood, trading illicitly with Indians, in buying whitefish from them which were caught during the close season. His fish were seized and confiscated, which had a salutary effect in checking a practice, hitherto frequently resorted to in that district. The fish were sold and the net proceeds remitted to the Department.

Clem Pelletier, a fisherman in the Qu'Appelle District, took out a seine license, but was detected by Overseer Gilchrist fishing during the close season. He was fined \$25 and had his net confiscated and destroyed. He also forfeited his license.

### RECAPITULATION.

Subjoined is an estimate of the yield and value of the fisheries of Manitoba and the North-West Territories for the year ending 31st December, 1888:—

Kinds.	Quantity. lbs.	Value. \$
Whitefish, fresh.....	2,249,540	112,477
do salt.....	655,200	32,760
Pickarel do .....	486,850	14,605
Pike do .....	657,000	13,140
Sturgeon do .....	27,980	1,399
Trout do .....	12,100	605
Tullibee do .....	273,000	2,730
Catfish do .....	19,580	291
Mixed fish do .....	267,000	2,670
Total .....	<u>4,648,250</u>	<u>\$180,677</u>

Seven carloads (140,000 lbs.) of salt whitefish, of the above quantity, were marketed in Montreal.

The Indian consumption, including Assiniboia, is estimated at 1,725,000 lbs., valued at \$60,375, making the aggregate catch for the year, 6,373,250 lbs. for all kinds of fish, and a total value of \$241,052.

All of which is respectfully submitted.

I have the honor to be, Sir,  
Your obedient servant,

ALEX. McQUEEN,  
*Inspector of Fisheries.*



## APPENDIX No. 8.

## BRITISH COLUMBIA.

ANNUAL REPORT OF THE FISHERIES OF BRITISH COLUMBIA FOR THE  
YEAR 1888, BY MR. THOMAS MOWAT, INSPECTOR.

NEW WESTMINSTER, 31st December, 1888.

HON. CHARLES. H. TUPPER,  
Minister of Marine and Fisheries,  
Ottawa.

SIR, —I have the honor to submit my annual report of the fisheries of British Columbia for the year 1888, together with statistical returns and officers' reports.

The tabulated returns show, as was expected, a decrease in value as compared with last year, exclusive of Indian consumption; the comparative figures being as follows:—

Total value, 1887.....	\$1,974,887 00
do 1888.....	1,902,198 50
Decrease, 1888.....	<u>\$76,691 50</u>

This decrease was due principally to the falling off of salmon fishing in the Fraser River.

The total capital invested in the fisheries, as compared with 1887, stands as follows:—

1887.. .....	\$ 872,445
1888.....	1,036,132
Increase.....	<u>\$163,687</u>

This increase is accounted for by the building, refitting and operating of additional canneries; an increased value on new schooners and an increased number of fishing boats.

The number of men employed at the fisheries is as follows:—

1887 .....	6,154
1888 .....	5,940
Decrease.....	<u>214</u>

## SALMON.

The pack of canned salmon, which is at present the chief industry of the fishing business of this Province, fell short of last year by 962,040 one pound tins; and that of salted salmon by 218 barrels, while the increase in the consumption of fresh

salmon was 250,400 pounds. This increase I entertain some doubts about, feeling satisfied that some of the fish dealers must have returned more fresh fish than they actually handled.

Owing to a break in the periodical run of fish in the Fraser River during the season of 1886-87, packers were undecided as to what course to pursue. Although past experience taught them that biennial failures had occurred regularly since 1886, it was not sufficient to prevent them making preparations for a large packing. As the run in 1887 proved better than they expected, they thought that perhaps this season would be equally as good.

The proportionate pack by the canneries on the Fraser River and the coast was as follows:—

	Cases.
Fraser River, 12 canneries.....	76,616
Coast 9 do .....	107,424½
Total.....	<u>184,040½</u>

In comparing this season's operations with last year, it will be noticed that there is a falling off on the Fraser River of 52,290 cases, while the coast pack increased by 32,147½ cases. Notwithstanding the large falling off on the Fraser, the average pack per cannery will be nearly the same as in the seasons of 1876, 1880 and 1884. But, it should at the same time be remembered that, while the average pack was about the same as in previous poor years, the outfit used in the capture of the fish was much increased, and that "cohoes" and "white salmon" were canned, which assisted in making up the average. It must also be borne in mind that the total pack on the Fraser exceeded the best previous corresponding poor year by 34,461 cases.

Much correspondence has been going on from time to time in the press regarding the modes of fishing on the Fraser River, and some writers went so far as to assert that gill net fishing on the sand, heads, and at the river's mouth, had driven away the fish and forced them to seek new spawning grounds. It was also stated that the "Saw-quai" salmon which inhabit the Fraser and its tributaries, were seeking spawning grounds in the small streams on the coast near by. Upon making strict enquiry and sending reliable parties to investigate the matter, I found these reports to be without foundation.

Herewith is a table showing the salmon pack of this Province during the last thirteen years.

## British Columbia SALMON PACK for 13 Years.

	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.
Even & Co	3,125	8,334	13,700	8,380	6,91	18,900	20,000	10,438	9,600	23,000	15,000	21,000	10,470
Findlay, Durham & Brodie	4,122	11,087	17,885	4,162	5,300	10,200	9,600	4,928	9,600	5,300	5,300	5,915	3,300
Holbrook & Co	2,600	9,000	12,000										
Finlayson & Lane	11,966												
English & Co	21,000			8,813	5,061	18,500	24,000						
British Columbia Packing Co.				5,200	2,048	19,987	21,500	5,230		12,952	5,000	10,000	5,000
Delta Canning Co				16,500	9,500	19,989	26,700	11,735		21,316	7,506	10,324	6,771
King & Co				13,570	5,585								
Lane, Pike & Nelson				11,555									
B. Haigh & Sons				6,560	9,722	21,000	15,401	9,630					
Adair & Co				4,333		17,690	20,478						
Laidlaw & Co						16,350	27,365	11,440	6,650		7,894	10,324	6,771
British Union Packing Co							7,560	6,170					
British American Packing Co.							15,000	4,600		12,000	6,000	11,000	10,000
Richmond Canning Co							9,600	9,200	4,952	7,850	10,127	10,150	7,804
E. A. Wadhams								11,856			14,600	9,850	5,720
Wellington Packing Co								10,055	8,780	12,500	11,230	11,500	7,200
Phoenix Canning Co								10,401	4,035		10,000	9,000	4,000
Spratts Ark								4,000	4,400				
Bon Accord Fishing Co											6,500	12,525	5,140
Harlock Packing Co												6,500	4,440
Inverness Canning Co											10,587	11,729	13,805
Windsor		3,000	5,500	5,812	9,924	11,560	12,137	7,480	12,345	6,300		12,000	12,872
Metlakatlah			3,000	4,791	9,770	10,000	12,355	7,304	10,548		8,300		
British American Packing Co.								6,871	9,772				
Skeena River Canning Co								5,200	11,297		12,000	12,965	17,709
Balmoral Packing Co								7,000	12,247	6,600	15,000	13,548	15,060
Alert Bay Canning Co								4,173	7,351			8,350	10,660
H. E. Croasdale						5,500	4,600	6,400	7,000	6,000	1,200	4,200	5,000
Douglas Packing Co						7,700	9,600	10,983					
Naas River Fishery							6,500	9,400					
A. J. McEellan									8,500				
Rivers Inlet Canning Co.							5,635	10,780	11,887		15,000	7,023	12,318
Wanook Packing Co.									8,496			4,180	8,000
Quashela Packing Co								11,000	3,364				
Total Pack each year, cases...	9,847	67,387	113,601	61,093	61,849	177,276	255,061	196,292	141,242	108,517	161,264	204,083	184,040



The foregoing table shows the total number of cases canned, names of each cannery and individual pack since canning operations began in this province. It will show at a glance the fluctuations in the run both of the Coast and in the Fraser River.

Much attention has been given to the Columbia River during the past two years by American citizens, in order to arrive at some mode of fostering its salmon fisheries and preserving a valuable industry to the country. I give herewith a table of the pack on that river for the last twenty-three years:—

Season.	Cases.	Season.	Cases.
1866.....	4,000	1878.....	460,000
1867.....	18,000	1879.....	480,000
1868.....	28,000	1880.....	530,000
1869.....	100,000	1881.....	550,000
1870.....	150,000	1882.....	541,000
1871.....	200,000	1883.....	629,000
1872.....	250,000	1884.....	620,000
1873.....	250,000	1885.....	554,750
1874.....	350,000	1886.....	448,500
1875.....	375,000	1887.....	354,055
1876.....	450,000	1888.....	372,000
1877.....	460,000		

Reverting to the remarks made in my last report with reference to the Americans seeking new fields for this industry, in order to supply the increasing demand which the partly depleted rivers of Oregon and Washington Territory failed in doing; I must say that their expectations have been fully realized and that the prospects are that, the number per cannery will increase.

Herewith is a schedule of the total pack in the Territory of Alaska, during the season of 1888:—

Packers.	Location.	Cases.
Cutting Packing Co.	Cook's Inlet.....	25,000
Alaska Commercial Co.	do .....	15,000
Artic Packing Co.	do .....	13,000
D. L. Beck & Son.	Chilect River.....	20,000
B. A. Seaburg.	Strickem River.....	15,000
Fishing and Trading Co.	Clowock Inlet.....	10,000
Bradford & Co.	Bristol Bay.....	25,000
Alaska Packing Co.	do .....	28,000
Artic Packing Co.	do .....	25,000
Alaska Commercial Co.	do .....	18,000
Karloek Packing Co.	Karloek River.....	72,000
Charles Thomas & Co.	do .....	30,000
Kadioc Fishing & Mining Co.	do .....	20,000
Cutting Packing Co.	Wah Bay.....	17,000
Boston Fishing & Trading Co.	Jass Bay.....	6,000
Cape Lees Packing Co.	Borough's Bay.....	6,000
Taylor Young & Co.	Tongas Inlet.....	13,000
(Cases, 48, 1 lb. cans each.)		<u>358,000</u>

#### FISHERY REGULATIONS.

New regulations for salmon and trout fishing have been adopted for this province; but so far as their being carried into active operation is concerned, the matter rests entirely with the Department as to the number of guardians to be employed for their proper enforcement. The foregoing remarks will show that careful

judgment is required for the forming of proper regulations for this province. If too stringent, they will have the effect of giving our Alaskan neighbours the benefit of marketing their fish at a lower rate; if not sufficiently protective, we will have the same falling off in our rivers that they are experiencing in the Columbia and other streams south of us.

The shipment of fresh and frozen salmon to eastern Canada and the United States, was below that of last season by 125,000 pounds. This is due to the high rates charged by the Canadian Pacific Railway Company, coupled with the scarcity of salmon in the Fraser River. The salmon of the Columbia River, although sold at a higher price than ours, are handled at much lower rates, and as the American Government has now added a half cent a pound duty on fresh fish, it will exclude our dealers from their markets and they will have to abandon the trade as they cannot compete with salmon from the Atlantic coast by paying such high freight and express rates.

#### HALIBUT.

Since last season a trade of considerable importance has been opened up for this fish, but I am sorry to say not much to the benefit of our people. Mr. Sol Jacobs, of Gloucester, U.S., visited this coast during the fall of 1887, and made reasonable rates with the Northern Pacific Railway Company to carry his halibut fresh in ice to Boston. He returned last spring with two fine schooners fully equipped for the fishing trade and established a market at Port Townsend, W.T., under the name of the Gloucester Fishing Market. The schooners are sent from there to the banks and when they return, the cargo is packed with ice in boxes, and shipped in carload lots to Boston and New York where they command good prices. Most of the fresh halibut shipped this season, which must have amounted to at least half a million pounds, were caught off the Flattery and Alberni banks, and I am led to believe the largest portion of these fish were caught within the three-mile limit. Besides this, a large trade was done in fletched halibut. I was informed by reliable parties on the coast that three American schooners were fishing between Rose Spit and Mosset, near the north end of Graham's Island, taking each a load of from 70 to 80 tons. These, I may say, fished within the three-mile limit, and there is no doubt but that a number of other American vessels were engaged in the same business.

The only parties in this Province who attempted anything in the halibut trade were Captain Lunberg, of Vancouver, and Captain Grant, of this place; the former did his fishing from small boats in the gulf and had to find a market for most of his fish in Seattle, owing to the high rates of freight charged by the Canadian Pacific Railway. Captain Grant made a trip to the Straits in a sloop and succeeded in securing a few thousand pounds which were salted and afterwards smoked at this place and marketed in Seattle for shipment to the Eastern States.

#### SKIL.

On referring to my report of 1886 it will be noticed that I gave a full account of these fish and of my experience in catching them while engaged in my experimental trips on the west coast of Vancouver and Queen Charlotte Islands. During the summer of 1887 there was no further developments in opening up this fishery, as shown by the report of that year. Last spring, owing to the arrival of new vessels to engage in the sealing trade and the unsettled state of affairs in Behring Sea, some of the owners were afraid to risk their craft in the trade, and a number of schooners consequently remained idle in the harbors. In talking matters over with Mr. H. Saunders, of Victoria, who for several seasons past has received limited supplies of these fish from a local dealer at China Hat, but not sufficiently to satisfy his customers, I induced him in conjunction with others to send the schooner "Theresa" to the west coast of Queen Charlotte Islands for the purpose of prospecting for these fish, giving him all the information in my possession; adding that as I was on my way to the Skeena I would try and induce the Indians to go and fish for him. When



Captain Olsen reached the fishing grounds he found that his gear was totally useless for fishing in such enormous depths, and had to employ natives to do the fishing with their aboriginal appliances. The latter took advantage of their isolated position and charged him 25 cents per fish. The schooner returned on the 17th of September after being out about six weeks with a cargo of 2,500 fish aggregating 30,000 pounds, which found a ready sale at \$12 per barrel. Shortly after the arrival of the "Theresa" she was refitted with suitable gear, manned with practical Newfoundland fishermen and returned to the fishing grounds in company with the schooner "Mary Ellen," Alex. McLean master. Upon their arrival, the weather was found to be so very boisterous that, out of a month's stay, they only succeeded in getting eight days' fishing, during which time they caught 314 barrels; these fish were salted in tanks in the schooner's hold and brought to Victoria, where they were repacked. These fish were caught in depths varying from 200 to 230 fathoms, with hand lines and trawls. A trawl of 300 hooks after being set two or three hours would be taken up with 100 or 150 fish, averaging about 10½ lbs. each.

Now that this industry has begun to a certain extent, we must look to a big trade in it so soon as the fish become known in the English, United States and Australian markets, because they are, without exception, considered by all authorities to be the best fish taken out of the ocean. It is a mistake to call them Black-cod; and I would recommend that the practice be discontinued by fishermen and dealers, as they neither look like a cod nor are they in any way related to the *Gadus* family. The scientific name "*Anclopoma Fimbria*" being so long and awkward to pronounce, I would recommend that hereafter they be simply known under the native name of *Skil*, or that of *Pacific Mackerel* might be adopted as they are related to the Atka mackerel of Alaska. These fish are very rich and oily; one weighing 25 pounds will yield a quart of oil. It is often extracted by the natives and used as butter for their bread; notwithstanding the fatness of this fish, it has the most delicate flavor and can be relished by the weakest stomach. The liver yields but little oil, which is I believe, considered equal to cod liver oil for medicinal purposes.

The spawning time of these fish is not definitely known; but from the size of the ova and the quantity contained in a fish, I should think they are equally prolific as the *gadus*. The eggs, I think, are hatched at the surface of the water and the young seek shelter and food close in shore.

The fishing around Queen Charlotte Islands is principally within the three-mile limit, owing to the water being deep close in shore, while on the Vancouver Island coast the fish lay further off shore.

A number of firms are now choosing fishing stations at several points on the coast and intend prosecuting this fishery in suitable boats from shore. This, in my opinion, would be the correct thing for the Scotch crofters to engage in and a more suitable place for engaging in this fishery than the west coast of Queen Charlotte and Vancouver Islands could not be found. But unless some measures are taken to protect our coasts, this fishery, like the halibut fishery, will be monopolized by American fishermen.

#### OOLACHANS.

These fish appear to be decreasing in the Fraser River, whether from overfishing or other causes, I am unable to say; but I think the large amount of traffic on the river by stern wheel steamers has had a tendency to keep them away.

#### SHAD.

In my last report I mentioned that these fish were working northward. I am happy to state that the salmon fishermen caught several in their nets on the Fraser River during the present season, but I am satisfied that if they are left to the natural course of reproduction it will be a long time before our rivers are stocked,



## SMELTS.

These fish are being used in greater numbers than ever, and owing to the scarcity of oolachans, the demand is increasing. They are caught in seines in salt water at nearly all seasons of the year, but at present no export trade is done in them.

## SARDINES.

The quantities consumed fresh and salted increases every season, but so far no one has thought fit to can them. The objection appears to be the high price of labor and the expensive outfit required for this business.

## STURGEON.

The demand for this fish in local markets seems to be increasing; large numbers being shipped to Victoria and Vancouver and to towns on Puget Sound and the interior. I have had numerous enquiries with a view of opening up a trade in the manufacture of caviar but as yet no one has made it his regular business to catch them. The fish taken for market are usually caught with hook and line by natives and in salmon nets by local fishermen. The Fraser is the only river in this Province where sturgeon are caught in any quantity. They appear to have no regular time for spawning, as they are caught full of ova a long distance up river, and in the same condition during the months of May and June on the sand heads. It is estimated that only every tenth fish taken in the Fraser River is found to contain eggs. I am of opinion that the same objection exists here to opening up a caviar business as on the Columbia River.

## MARINE FURS.

This season's catch of hair-seal approximated about the same as last year; they are not taken by white hunters for commercial purposes and only for local consumption by the Indians. The demand is therefore limited.

The catch of sea otter increased by 25 skins; this is owing to an increased catch in Behring Sea.

The returns show 21 walrus skins and 250 pounds of ivory; this is not a product of our coast, but was brought from the Arctic Ocean by one of our vessels and marketed in the Province.

The catch of fur seals this season shows a decrease as compared with that of last year of 5,817 skins. The following return contains detailed accounts of the number of vessels employed and skins taken.

**RETURN showing the Number of Vessels, Boats and Men engaged in the Marine Fur Fishery of British Columbia, with the Products and Value, for the Season of 1888.**

Names of Vessels.	Names of Owners.	Tonnage.	No. of Boats.	No. of Men.	No. of Seals in British Columbia.	No. of Seals in Behring Sea.	Total No. of Seals.	Total Value of Seals.
								\$
Penelope.....	J. J. Gray.....	69	5	20	805	900	1,705	17,050
Mary Ellen.....	A. McLean.....	69	14	30	1,410	1,937	3,347	33,470
Juanita.....	Hall & Gospel.....	40	13	28	177	1,617	1,194	11,940
Mountain Chief.....	B. Jacobson.....	26	6	10	400	825	1,225	12,250
San Jose.....	J. S. Lee.....	52	4	16	107	.....	107	1,070
Sapphire.....	E. B. Moroni.....	124	9	22	1,200	.....	1,200	12,000
Viva.....	Carne & Munsie.....	92	5	21	8 6	2,089	2,876	28,750
Black Diamond.....	Gutman & Frank.....	81	9	19	231	863	1,096	10,960
Mary Taylor.....	J. D. Warran.....	42	13	24	393	.....	392	3,920
Heleyon.....	American.....	61	6	24	17	.....	17	170
Triumph.....	D. McLean.....	97	12	9	.....	2,470	2,470	24,700
O. S. Fowler.....	Wm. Bendt.....	34	2	12	230	.....	230	2,300
Annie C. Moore.....	Chas. Hackett.....	112	7	22	.....	715	715	7,150
Lily.....	Gutman & Frank.....	63	22	20	93	.....	93	930
Pathfinder.....	Carne & Munsie.....	66	9	21	600	650	1,250	12,500
Adele.....	F. Rutz.....	50	8	19	392	822	1,214	12,140
Rosey Olsen.....	Wm. Olsen.....	33	3	13	100	500	600	6,000
Annie.....	Jas. Laffin.....	25	3	11	156	1,039	1,195	11,950
Maggie Mc.....	John Dodd.....	71	5	20	125	1,299	1,424	14,240
Favourite.....	Chas. Spring.....	79	12	27	300	1,834	2,134	21,340
Total.....								244,830
Estimate of skins purchased from Indians.....					3,500	.....	3,500	35,000
do sea otter skins purchased from Indians.....					100	.....	100	7,500
do hair seals do do.....					3,500	.....	3,500	2,625
Schooner "O. S. Fowler," walrus skins.....					.....	21	21	378
do do 250 ivory at 40c.....					.....	.....	.....	100
Grand total marine furs and products.....								280,433

The decrease in the fur seal catch in Behring Sea is still more noticeable; it was caused principally by the unsettled state of affairs with the American Government, several of the schooners being afraid to enter these waters at the risk of seizures.

A great deal has been written on the life and habits of the fur seal. It is contended by some that all the fur seal in the north Pacific have their rookeries on St. Paul and St. George Islands in Behring Sea. Others claim that many of the fur seals of the Pacific never enter Behring Sea, but pup on large kelp fields in the ocean and may perhaps have regular hauling grounds outside of Behring Sea. Extracts from a circular of C. M. Lamsen & Co., of London, England, will give the reader some idea of where the fur seals are caught. From October, 1886, to January, 1888, the following number of skins were sold:—

	Seal Skins.
North-West Pacific Coast.....	43,687
Lobos Island.....	30,463
Alaska.....	204,033
Copper Island.....	100,880
Japan.....	9,856
Cape Horn.....	6,926
South Sea.....	200
	<hr/> 396,045

It has been estimated that 16,000,000 seals haul out annually on St. Paul, and 3,000,000 on St. George Islands. The Commercial Alaska Company controls these and other islands by lease from the American and Russian Governments. I am of opinion, that many fur seal pup on kelp fields along the British Columbia coast. I have had reliable information from practical hunters and fishermen, who bear me out on this point. Morris Moss, of Victoria, states that during the year 1870, he was engaged trading on the coast near Bella Bella during the months of March and April, when he saw hundreds of fur seal pups from three to five months old, which had become separated from their mothers, and on account of a heavy storm were blown on shore, and caught by the natives. Captain Alexander McLean, of Victoria, states that he killed a number of fur seal pups off Cape Cook, which had likewise been blown ashore during a storm. James G. Swan's report for 1880 and 1883, goes to show that the Indians of Cape Flattery, capture fur seal pups each season, and keep them as pets around the camps. It is impossible that these pups may have come from Behring Sea at that age, as Mr. Elliott states they do not leave the Islands before the month of November, and those that Mr. Swan speaks of are caught early in the spring. The majority of our hunters contend that, there are over 7 per cent. of pups in the entire catch of fur seals on the coast; while in Behring Sea the catch does not exceed 1 per cent. But, they cannot deny the fact, that over 60 per cent. of the entire catch of Behring Sea is made up of female seals.

#### DOG-FISH.

These are still found in the bays and inlets of this coast in countless numbers, but, so far, they have not been utilized as a food fish. The supply of oil which is principally extracted from them has decreased by 43,000 gallons; the Skedigate oil factory falling short of 10,000. The oil from those fish is growing more in favor, and prices are looking up, with indications of a firmer market.

#### WHALES.

None of our vessels have ventured in this business, and until there are more ships and greater competition in sealing, I don't think it will be attempted.

#### TROUT.

These fish find a ready sale in the markets of this Province, and as the demand increases they are more fished for. They are not very plentiful in the rivers of the coast, but are so in the interior lakes and streams. Constant fly fishing in the summer by whitemen, netting and spearing by Indians and the use of explosives by Chinese will, I apprehend, cause them great injury. With an officer on each stream in this country it would even be a difficult thing to guard them.

The introduction of speckled trout in Kamloops, Shuswap and Okanagan Lakes would be a great benefit to that district.

#### WHITEFISH.

On referring to my reports for 1886 and 1887, it will be noticed that I mentioned the existence of whitefish in some of our lakes; but I learn from Mr. Max M. Mowat, who made an examination of the interior last summer, that they were few in numbers and inferior in quality. I have already recommended the planting of eastern whitefish in the Shuswap, Kamloops and Okanagan Lakes, and am satisfied they would do well there.

#### MIXED FISH.

Herring were consumed in about the same quantity as during the previous seasons.

Toosbqua (*Cultis* cod)—The numbers taken are in excess of the previous season, owing to a better local demand.



Codfish—From their scarcity on the coast; these fish are seldom seen in the markets; an occasional one is sometimes taken among other fish.

Rock fish, flat fish and other varieties are taken in proportion to the increased population.

#### CRUSTACEANS.

Oysters—These have been taken in larger quantities within the past year; the beds are limited and the variety small. The largest portion of the catch was taken from the Vancouver Island beds. The Victoria Arm lease has been dropped; the imported oysters which were planted there proved a failure.

Referring to Guardian Lomas' report, I would recommend that an annual close season be adopted for this Province, from 1st May to 31st August both days inclusive; that a license fee of ten cents per barrel be placed on all oysters fished exclusive of those taken on leased beds, and that a regulation be made defining the size of the oysters that should be marketed.

#### LOBSTERS.

The United States Fish Commission landed on 22nd January 150 parent lobsters at Cape Disappointment, 100 were females containing about 7,500,000 eggs. The same number was planted at Port Townsend. Out of the total shipment it is said that only one lobster died. It is also reported that the 339 lobsters brought to Montreay, California, last season are doing well. As I previously made recommendations and suggestions with regard to the intended shipment of lobsters for this Province, there is no need dwelling further on the subject.

#### SHRIMPS AND PRAWNS.

The catch has largely increased within the last year; but they are so fished that it is difficult to get at an exact estimate of the quantity. They are growing in favor and considered a great delicacy.

#### FISH WEYS.

None have been built so far; the construction of the one ordered at Nicola Lake was found to be unnecessary.

The amount authorized to be expended on the Cowichan River was reported by Guardian Lomas to be unnecessary, the freshets having effected the falls in such a manner that the rocks did not require blasting.

Nanaimo River falls have not yet been reported upon by Guardian York, so that the amount authorized was not expended.

Comox River, according to Guardian Berkeley's report, has two bad pitches of falls, which, it would cost about \$150 to make passable for the ascent of salmon to the lakes. This should be done when the river is low during the summer season as it is an important stream.

#### PROTECTION.

The weekly close time was generally well observed throughout the Province and few fines were imposed; although there are outlying districts where guardians are unable to reach, and at those places parties fish when and how they please.

During the excitement last season on the Skeena River, the Indians were very troublesome. The Hazelton Indians with whom the Government of British Columbia had trouble, fished with short nets at a place called Kityap; they refused either to pay license or stop fishing, the cannerymen received the fish from them, stating they were not aware that these fish were illegally caught. When Guardian McNab informed me of this fact, I went to the Skeena River and had a consultation with the Indians. I found that fishing was about over for the season and the canneries closing down. I made arrangements with the cannerymen who received the fish from the Indians that they must pay the license, of which fact I have already advised your Department.

While in consultation with the Indians, they wanted to know my business there, the fishing laws, where the license money went to, and several other things which I fully explained to them. Before I departed, they informed me they would not take out a license another season, and intended doing all the fishing they choose. I notified the canners not to receive fish from an Indian another season, unless he had a license; so the matter stands. It will rest with the Department whether they will put on a sufficient force to prevent this another season or not. I am of opinion that the only way this illegal fishing can be prevented is by the presence of a sufficient force of guardians or a small armed cruiser to seize all nets, boats and canoes which do not comply with the regulations. Guardian Guillod, of Alberni, states that the regulations were successfully carried in his district, but in his opinion a number of Indians sold fish to parties without procuring a license. The natives in that district catch the salmon in traps, remove the eggs and leave the fish on the banks to decay. There is some talk of a cannery being erected at Alberni this season.

*James Keill*, guardian on Sooke River, states that the regulations in his district were fairly observed.

*Wm. Healey*, guardian at Sooke Lake, states that fly fishing for trout is increasing each season; that the fishery regulations were well observed and that there was no infringements by the use of explosives.

*John Raymond*, guardian on Shawingan Lake, states that fly fishermen were in excess of last season and that the regulations were particularly well observed.

*John Berkeley*, guardian on Comox River, reports the run of salmon plentiful during the season, but that he experienced a good deal of trouble with Chinese and white men using giant powder for killing fish in the upper reaches of the river and lakes.

*Charles Jook*, guardian on Nanaimo River, experienced considerable trouble in preventing the Chinese and Indians barring the river with weirs and nets.

*Thos. McNeish*, guardian on Rivers Inlet, made an entire exploration of the river and lake during the season, and recommends that the boundary line of net fishing be to the west of a line drawn due north from the Victoria Packing Company's wharf across the Wannock River.

Other fishery guardians' reports are herewith appended.

I have the honor to be, Sir, your obedient servant,

THOMAS MOWAT,

*Inspector of Fisheries for British Columbia.*

## REPORTS OF THE DIFFERENT FISHERY GUARDIANS TO THE INSPECTOR OF FISHERIES IN BRITISH COLUMBIA.

### FRASER RIVER.

BY JOHN BUIE, FISHERY GUARDIAN.

I have the honor to submit the following report as guardian of the Fraser River for the past season.

I was sole guardian in this district till the first of May, when the canneries having a great number of their boats out, Mr. Green was put on the lower part of the fishing ground. As far as a persistent endeavor to secure as many fish as possible was concerned, this was only a repetition of last year's operations.

About the middle of June in consequence of your prolonged absence in visiting certain districts on Vancouver Island and afterwards the Skeena River, it became



necessary for me to attend a good deal at the Inspector of Fisheries' Office; issuing licenses, answering correspondence and giving information to eastern people who were coming into the country to engage in fishing; Mr. Pittendreigh taking my place on the river during your absence. I considered it however my most particular duty to keep well informed as to salmon fishing of the Fraser River.

Quite a number of boats fished for the market and for parties dealing in fresh fish during the month of March but the canneries did not begin operations until the 20th of April, after which they worked continuously for five months and a half.

The number of boats licensed on this river during the last season was 598, against 467 for the year 1887. The fish from these boats were distributed among twelve canneries, two freezing establishments and a fish market. The pack of canned salmon was 76,616 cases against 128,806 in 1887, a falling off of 52,190 cases. The average to each cannery is however a close approximation to the averages for the correspondingly poor runs of 1876, 1880 and 1884.

1876,	3	canneries	averaged	.....	3,280
1880,	7	do	do	.....	6,022
1884,	6	do	do	.....	6,401
1888,	12	do	do	.....	<u>6,384</u>

It will be seen that notwithstanding the number of canneries being double what they were in former poor runs, still the average is about the same. It must be remembered, however, that instead of fishing for five or six weeks as they did in former years, the fishing extended over nearly as many months. As next season will be the year for the good run of saw-quais it will be a good index of whether the Fraser River is being overfished and to what extent.

I learn that two new canneries are to be erected on the Fraser this year, but unless some of the present ones remain idle, I do not understand where room for the increase in nets is to come from. At the regulation distance apart the number of nets fished this year would extend 85 miles while there is only about 70 miles of fishing ground.

In reference to the new regulations for British Columbia, I will only say that if they are to be strictly enforced the number of guardians should be increased during the fishing season or a small steamer provided that will travel faster than a man in a row-boat can go. The current in the river runs at from four to six miles an hour and the guardian may see illegal fishing done half a mile up stream from him and his utmost exertions may not enable him to catch the offender. Perhaps taking them all round, the fishermen on this river will compare favorably with those in any other place and their employers, the canners; have always shown a disposition to respect the fishery regulations, yet there must always be exceptions, and to protect the 70 miles of fishing ground is more than two men in row boats can do efficiently. To enlarge on this fact is unnecessary, as any one giving five minutes thought must clearly understand it.

## LOWER FRASER RIVER.

BY C. H. GREEN, FISHERY GUARDIAN.

I am sorry I am unable to give a favorable report of the salmon fishing in my district this year, it being what is termed the "poor year" on the Fraser River, and it certainly kept up its reputation, for very seldom did I see enough fish in one day to keep the canneries working full time either during the Sawquai or Cohoe run, thus showing that the fish never came into the river, making the pack very much below that of last year, although more fish were brought to the canneries this year than usual, principally from Mud Bay and Semiamho Bay, where seven seines were employed during the Cohoe run in September and October. I think it would be a very good



suggestion to recommend to the Department that the canneries shall only use 73 in. mesh nets during the latter part of August to the 15th September; it would not only give the clean fish a chance to reach their spawning grounds, but would prevent fishermen catching the poor ones that are struggling to the salt water after spawning as they are unfit for food and are only thrown overboard, thus destroying them to no purpose. I am still of opinion that there are too many boats allowed to fish in the lower river, and I am sure that a reduction would be a decided benefit to the cannery proprietors. I have spoken to several owners on this subject, and they state they would be satisfied with 30 boats provided they were all to take the same number. I would also suggest that the lower river be officially divided into drifts and a regulation made compelling each fisherman after taking up his net at the bottom to return to the head before again throwing out his net and to take his proper turn with the other boats fishing, as I have many complaints about cooking (fishing within the 250 yards limit) during the season, which cases are very hard to decide owing to their being no official head to any drift on the river, and it also leads to quarrels between the men employed by the several canneries. I am glad to be able to state that since my last report two Frenchmen have started a salmon oil factory near Ladner's Landing, and have been able to use all the offal from three or four canneries. They informed me that they have no difficulty in disposing of their oil at a fair price, the quality being considered very good. It is principally used for lubricating purposes. They also propose to dry the refuse and sell that as fish guano. I am sorry to state that, there is still a large quantity of offal, especially in a good season, still thrown into the river which cannot but be detrimental to the salmon. I think it would be to the interest of everybody connected with the industry, if the Department would take some steps to have it stopped.

According to the new regulations, by Order in Council of 26th November last, I see it is proposed to alter the close time till 6 a.m. Monday morning. I would beg respectfully to suggest that the time be left at 6 p.m. Sunday for this reason: that it will be impossible for any one man in a row boat to watch the fishermen, as numbers of them, especially contractors, are sure to take advantage of Sunday night after dark to fish, and it will be impossible to stop them, as after the net is in the water you cannot hear them and in the dark you cannot see them; as it is at present it is very hard work, as I can only go to one part of the river each Sunday, leaving the other two parts without any supervision at all. Nearly all the illegal fishing is done between 5 and 6 p.m. on the Sunday, all parties trying to take advantage of the first drift. I suggested in my last report that a small steamboat should be provided for the use of the guardians on the river. I would again draw your attention to the necessity of having at least one, and if the new regulations are to be strictly enforced, it would be necessary to have one for this district alone, as it would be more than any one man could do to pull against the freshet all night and get about to any advantage. Sometimes now I see boats fishing during the close time, but before I can row to them it is 6 o'clock, and they get so mixed with other boats that I am unable to swear to them, and I am well aware that as soon as I go down the river the boats behind me commence fishing, knowing full well I cannot get back to catch them. I can also corroborate the statement made about the close time by the Salmon Packers Association, being myself so much amongst the Indians. I continually see them drunk and gambling on Saturdays and Sundays, and I know the trouble the cannery men have in getting them out to work on the Sunday evenings in consequence.

I notice in the new regulations one clause touching on the length of nets to be used. I would suggest that the nets be limited to 150 fathoms on the line as I consider that length would always meet the requirements of the law in any part of the lower river where most of the fishing is done. I notice now that contractors sometimes fasten two nets together when fish are scarce, and by so doing take up more than their share of the channels and those above them have a very poor chance when such long nets are used. Such a restriction would, of course, prevent this from being done by making it penal to use more net. The size of the mesh should, I think, be fixed at  $5\frac{3}{4}$  inches, as in a good season the sawquai and cohoes both run very small

and numbers would be lost that are at present used in the canneries; in the poorer seasons the fish are usually larger, but will always gill in a  $5\frac{3}{4}$ -inch mesh. I might mention that the run of oolachans which generally takes place in May was an entire failure in this locality, not sufficient having been caught to supply the local demand. I think the reason is that when they are not very plentiful they swim too deep on first entering the river to be caught with the usual appliances.

In conclusion, I would state, I always find the cannery proprietors anxious and willing to abide by the fishery regulations, and I don't consider that they are to blame when their Indians are fined for fishing during close time as it is impossible for them to control their outlying camps. The camp managers often allow their boats to leave the camps too early in the afternoons.

## LAKES AND TRIBUTARIES OF THE FRASER RIVER.

(By MAX MOWAT, FISHERY OFFICER IN CHARGE OF HATCHERY.)

I have the honor to make the following report *re* the lakes and streams tributaries of the Fraser River, which I was ordered to examine and report upon last season.

Leaving New Westminster on the 11th of June, I arrived at Kamloops on the 13th. This town is at the confluence of the North and South Thompson Rivers.

The surrounding country is rolling hills, scrubby timber, sage brush and bunch grass. The South Thompson which drains Shuswap Lake and empties into Kamloops Lake is the stream into which the greater body of the sawqual salmon of the Fraser River find their way and its many tributaries furnish spawning beds for these valuable fish, the clear water and clear gravelly bottom especially adapting it to them as being most suitable for the reproduction of their species. On my arrival I found the water very high in both of the Thompson Rivers. Kamloops Lake which is five miles west of Kamloops, is about 23 miles long and from one to one and a half mile wide. The principal fish to be found in it are aguassa, silver and speckled trout. The fishing, however, is not at all remarkable, Savona at the lower end of the lake being the only place where even angling is indulged in. Quite a number stop off here each season and have good sport.

This fine sheet of water should, in my opinion, supply an immense quantity of trout.

On the 18th of June I made a trip to Fish Lake, twenty-two miles south of Kamloops. This is the largest of a series of small lakes in a very rough part of the country. This lake is two miles long and half a mile wide. Trout fishing in this lake is simply magnificent, and if they were not so far out of the way of ordinary travel, quite a lucrative business might be made here in the summer fishing.

I stayed in the neighborhood of Kamloops examining the different streams entering the North and South Thompson, until the 17th of July, when I started for Nicola Lake, arriving at Stump Lake that evening.

This lake is five and a half miles long, and from one-half to three-quarters of a mile wide. It is covered with a green scum of vegetable matter the whole year round, and although trout have been introduced they do not seem to thrive. Small fish from two to six inches in length are about the size that are obtainable here, and even those are very scarce. Messrs. Patterson and Henderson, who are interested in the Comet and Star mines and have quite a force of men at work here, thought if carp or bass were put in the lake they would do well and be a great benefit to people who would eventually settle here to develop the mines of the neighborhood.

A stream about two miles long connects this with Nicola Lake. It has a fall of about seven feet, which prevents the myriads of red fish from the Nicola Lake ascending into and stocking Stump Lake. A slight outlay would remove this obstruction sufficient to allow the fish to get up.



Nicola Lake is twenty miles long, and about a mile wide, and is surrounded by one of the finest farming districts in British Columbia. It is well supplied with the different varieties of fish, as well as steel heads or salmon trout, and here also is found the red fish, a fish which seems to be peculiar to some of the lakes of British Columbia. In general appearance it resembles a small saw-quai salmon, but its average size at maturity is only between nine and ten inches in length, and it will not exceed ten ounces or three-quarters of a pound in weight. In the month of September they enter the streams to spawn in immense numbers, and their flesh is found to be of a deep red color and fine flavor. They are caught by both whites and Indians in great quantities, the Indians drying them and the whites salting them for winter use. As the spawning season advances these fish get off their color like the salmon and the flesh deteriorates in quality. After spawning is over, they return into the depths of the lake and are not seen again until the next September, when they return to spawn. They are caught in traps by both whites and Indians, and so numerous are they, that I have seen Indians dipping them out with baskets.

Nicola River, the outlet of the Nicola Lake, is 48 miles long and empties into the Fraser River at Spence's Bridge. It is a clear, rapid, gravelly stream and abounds in salmon trout, and steel-heads. Here in February and March the steel-heads pass in great numbers on the way to the spawning beds, the size varying from 8 to 18 pounds. Thirty miles south of Nicola on the Sullameen River, is Dead Man's Lake and a number of smaller ones in the same section of the country. They are all fairly alive with trout and the country around being covered with herds of large game. It may be said to be a veritable sportsman's paradise.

Coquahala Lake is also in this part of the country and besides a bountiful supply of aquassa and speckled trout, saw-quai salmon resort here to spawn. Returning again to Nicola Lake and travelling east I visited a number of lakes on my way to Salmon River, Spring Minnie and Penask Lake. Minnie Lake, the largest of these, seems to actually bubble with aquassa trout, indeed I never saw anything to equal the trout fishing here. The outlet of this lake is through Quilchona Creek into Nicola. It is 12 miles long and has a fall of 13 feet, 3 miles from its head which prevents the red fish of Nicola from ascending into Minnie Lake.

After spending Sunday with Mr. Graves at the head of Douglas Lake, I proceeded down the Salmon River, which is but an insignificant stream until it reaches Grand Prairie, above this place the greater body of water from Salmon River is taken for irrigating purposes and I learned from reliable authority that trout in immense quantities are destroyed by being carried into these irrigating ditches, this could be obviated by screens being placed at the head of the ditches.

Salmon River empties into Shuswap Lake, as does Adams River, Eagle River, and Spullmacheen River. Shuswap Lake is of very irregular shape, being divided into a number of arms, the extreme length from the end of any one arm to the end of any other will not exceed 60 miles. It is well stocked with silver trout, aquassa and speckled trout, as well as salmon, and salmon trout, in their season. All the rivers that empty into this lake are natural spawning beds for saw-quai salmon. Eagle River from which the Indians take a great number of salmon is a shallow rapid stream and is remarkable for the size of its speckle trout. It is said that they are caught sometimes weighing 20 pounds, while there I caught one weighing  $5\frac{1}{2}$  pounds.

The Spullmacheen is the principal river flowing into the Shushoop and is navigable for 30 miles by steamer.

Above the head of navigation this river becomes more rapid, and with its gravelly bottom is a favorite resort for the saw-quai salmon to propagate their species. South-west of the Spullmacheen country is Lake Okanagan, a beautiful sheet of water 90 miles long and about four miles wide. It is surrounded by a prosperous farming community. Its waters flow into the Columbia River, and the quinnat salmon from the Columbia comes up here to deposit its spawn. The red fish of the Nicola also make their appearance in myriads in the months of September and October, and ascend the small streams to spawn. After spawning they return to the



lake and are not seen again until the next September. The lake is very deep, I was assured by Captain Short, that 75 fathoms of line fails to sound it in many places. At the outlet of this lake is Okanagan River, a swift, gravelly stream, suitable spawning ground for the large quinnat salmon of the Columbia River. Following this south we find Lake Osoyoos, close to the 49th parallel, it is about a mile wide and three or four miles long, and supplies the few settlers here with all the fish they require. About three miles below Osoyoos the Simellkamen empties into the Okanagan, there is a fall about half a mile from its mouth which prevents salmon from going up to spawn, but it is one of the best trout streams in the Province. Kettle River, a tributary of the Columbia, is also a fine trout stream and has splendid fishing.

The contention of some of the fishermen that the spring salmon or quinnat that pass up the Fraser in March and April spawn during the summer months is fallacious. The quinnat salmon whether going up river late or early do not spawn until the latter part of September, while some go up stream early in the season and lay in the lakes and deep pools till the spawning season commences other protract their journey until the eggs are about ready to drop from them.

In reference to the mode and cost of travel and living in this country I may say the usual way of travelling is by stage, but as I had to stop and examine the different streams and lakes in the country I was unable to avail myself of this usual mode of conveyance and had to travel on horseback. The population is scattered and board cannot be had for less than \$2.00 per day; a meal or a bed will cost fifty cents to seventy-five cents, and they think they confer a favor by accommodating one at any price.

I would like to draw your attention to the Indian traps in the different streams. On my way down the Okanagan River I came across one of these traps made out of willows and completely damming the river so that not even a trout could get up. I saw the Indian chief about it and told him how wrong it was to catch all the fish and not allow any to get past to spawn. He told me that the American Indians had a trap across the river below the boundary line and that they prevented the fish from coming up, and that they could not get any. I investigated this when down there and found this correct. This trap is in the river the whole year round and the only time the fish get up is when the high water flows over it or it breaks away, then there is some salmon caught above.

I found our Indians very observant as far as they know about the laws and as soon as they understood what was wanted of them. When on my return trip from Osoyoos I found that the trap in the Okanagan River had been removed; they also promised to remove their red fish traps two days in the week so as to allow the red fish to go up to spawn.

Another matter I would like to draw your attention to, and that is the mode of irrigating. There is immense quantities of water used in some of these ditches and the trout going up to spawn find their way into these ditches and are destroyed in thousands. I would recommend that a wire screen be placed across the mouth of these ditches so as to prevent the fish from going into them. It could be done by causing very little trouble and expense to the parties using the water.

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## SKREENA AND NAAS RIVERS.

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(By JOHN McNAB, FISHERY GUARDIAN.)

It affords me much pleasure to report, that in the district under my jurisdiction the fishing season of 1888 was a very prosperous one, and notwithstanding some disturbing causes, satisfactory to all concerned.

I arrived at Naas Harbor on steamer "Boscovitz" on the 4th day of May, and found Mr. McLennen busily engaged in refitting the cannery premises which he had recently purchased, and extending the wharf, where steamers can now land, and secure cargo, at all stages of the tide. New premises were also in course of erection for a salmon saltery for Mr. Hall of Port Simpson. After having issued licenses for the number of boats which these establishments expected to employ, and made enquiries in reference to the persons likely to engage in salmon fishing on their own account, and also, in regard to the coolachan fishery and the different tribes of Indians that participated therein during the last seasons' fishing, I left the Naas in my boat for the Skeena, which I reached *via* Port Simpson and Metlakalta on the 11th of May. I there found the managers of the different canneries busily preparing for the season's work, and also preparing to repeat the mistakes of former years, by commencing operations at too early a date. A simultaneous commencement was made on the 21st of May, and it was after the 10th of June before the catch was remunerative, between which date a large number of magnificent fish had been caught at a heavy loss to all concerned.

During the whole season Indian salmon was scarce and fishing less satisfactory than in former years, the scarcity was owing to the fact of so many of the Indians from Metlakalta,—who were the most skilful fishermen—having joined Mr. Duncan's colony in Alaska, it was less satisfactory, as the place of the former had to be supplied by Indians from a great number of tribes, many of them from the forks of the Skeena, tribesmen of those who were concerned in the trouble that unfortunately occurred in that vicinity last summer. Such being the case it is not surprising that quarrels occasionally took place amongst them, resulting from their interfering with each other when fishing, and various other causes and which threatened at times to become serious. However by being constantly amongst them, and advising them, all serious trouble was averted, although the wild rumors and exaggerated reports which were constantly being circulated from the scene of the trouble on the Skeena kept them in a state of excitement and unrest.

The only serious difficulty which I had in enforcing the Fisheries Act was with the Indians of Kit-Sap. In regard to that, you are well informed from my letter and from information gained during your visit to the Skeena last summer.

I am convinced that a difficulty will not occur again in the same form, or of such formidable proportions, but that more or less salmon will be caught by Indians in remote places, and sold to their friends who are fishing on contract, who will land them at the canneries as their own catch, I have not the least doubt.

Fishing on the Skeena is very destructive to nets owing to the number of sunken, and half sunken logs and trees in the river, and I think that those who are engaged in this important industry are entitled to the consideration of the Government, and that suitable means should be taken to secure them from the large annual loss to which they are subjected.

I visited the Naas River again on the 24th of July, when I issued a few more licenses. There was a good run of salmon, but a scarcity of fishermen.

When at Naas Harbor I received a letter from the chief of the Indian village at Kincolith, near the entrance of the Naas River, requesting me to call at his village as he has something of importance to communicate. I landed there on my way back, and found the chief and a number of the principal men of the village assembled in the chief's house. They asked many questions about the law in regard to catching salmon on the Naas River; wanted to know exactly how much money I had collected this year, and what I had done with it. After being satisfied on these points, the chief very gravely informed me that I had done very wrong in collecting money for fishing on the Naas, without having asked permission from him, that the river belonged to him and to his people, that it was right that white men should buy licenses, but that he and his people should receive the money, that they were entitled to it all; but that as I had been sent to collect it, they were willing that I should retain half for my trouble. After a consultation amongst themselves, I was told that they had intended to demand half the money collected this year, but would



let it pass until next year, and charge me to inform the Government to that effect, which I respectfully take this method of doing.

The Oolachan fishery on the Naas is becoming yearly of greater importance to the Indians, as the oil is becoming of greater commercial value. White traders are on the spot during the fishing season, who purchase all that the Indians will sell. The quantity extracted is large, but it is impossible to get anything near a correct estimate from either traders or Indians, as they seem averse to giving much information on the subject, an idea may, however, be gained of the value of this commodity to the Indians, from the fact that several hundred families annually engage in the business, and that fifteen boxes of oil are retained for each family before any is sold. A box is of the capacity of at least ten gallons. The method of extracting the oil is very wasteful. Correct information in regard to the methods of fishing, or statistics of the quantity of fish caught, and oil extracted, could only be gained by an officer on the spot, during the fishing season in March.

When the Indians on the Skeena became aware that I had forbidden the managers of the canneries to purchase salmon caught by them in unlicensed boats they were very angry and indulged in threats of resistance. Finally they held a meeting at Port Essington, and sent to me their decision in a letter.

I would respectfully recommend that the wishes of the managers of the canneries on the Skeena and Naas Rivers be met in regard to the time of commencing fishing and that the first Monday in June be made the time before which no salmon should be caught.

I found the boat, provided for my use by your Department, of very great use, in fact, absolutely necessary to the efficient performance of my duties; it is, however, too small for safety at all times.

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## COWICHAN RIVER.

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BY W. H. LOMAS.

I have the honor to forward the annual return of the fisheries in this district. In doing so I would state that the quantities given can only be approximate, as no licenses were issued through this office, and as no licenses are required for boats taking fish other than salmon, it is very difficult to give even an estimate of what they take.

This is a matter which I would respectfully suggest ought to be altered; as I consider that all parties fishing for market ought to be under some kind of control even if only a nominal license fee be charged.

When the herring bait fail, the men making dog-fish oil use the Quarl salmon for bait, and in netting these often catch a few cohoes and sawquais which they generally ship to market. These men could scarcely be expected to pay a \$25 license, neither does it appear fair that they should do so, when professional fishermen round Victoria, who fish in boats and sloops for the market are not required to do so, although in their nets, which are very small mesh, salmon are often caught.

I have been on this coast for more than twenty years and am sure that the whitefish (*i. e.* flounders, rock cod, perch, &c., &c.) are being unnecessarily destroyed by this kind of fishing, as the nets are dragged into shoal water where the young fish are left to die. This is a very common occurrence in Victoria Harbor.

The same thing occurs in the oyster fisheries where the public are allowed to fish without any close season, which ought to extend from April to September; and no one ought to be allowed to ship oysters to the market covered with their spat, but should be compelled to drop the young oysters into the water as they gather and not clean them ashore as at present. A great deal of this wanton destruction of oysters would be obviated were private oyster culture encouraged. At present any



man fishes anywhere and has no encouragement to improve a bed which may next year be occupied by someone else.

I make these remarks because I consider it a mistake to make laws for the protection of salmon only, and to leave other fish in which the general public are as much or even more interested, unprotected, and because I see these great sources of food being rapidly destroyed by parties who have little interest in the country and pay little or nothing to the revenue.

During the past season trout have been very scarce in the Cowichan River, whether owing to netting in the bay or to the changes of the river channel it is impossible to say; formerly the river teemed with them, but now there are so few that sportsmen have deserted the stream.

The salmon in the bay were in about as large numbers as last year, and between thirty and forty thousand were taken and sent by steamers to the canneries on the Fraser River.

Many of the saw-quais appeared here for the first time, doubtless the return of the fry placed in this river from the hatchery, for the Indians say they had never seen these fish here before.

During the past season, quite an industry has sprung up in halibut fishing in and near Plumper's Pass; large quantities are caught, most of which are shipped to Vancouver for the east, some going to Victoria. When I was last at the Pass one man, after a few hours fishing, brought in nearly 300 lbs. of halibut, which sells there at 5 cents per lb. Large quantities of cod and a few dogfish are also caught in this locality, but chiefly by the natives.

At Portier's Pass, which is only a few miles north, no halibut are caught, but dogfish abound at present. Ten sets of lines (of 800 hooks each) are constantly worked; they are baited with herring, or if this bait fail, with pieces of (quar-lo) dog-salmon, and the business seems to be remunerative. Several of the fishermen from this neighborhood follow the herring further north to take more dogfish, taking their boilers with them.

The run of quar lo or dog-salmon was in quantity much as usual, but as all the rivers rose rapidly this season the native take was not large.

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**RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Number of Men engaged in the Fisheries, Quantity and Value of Fishing Materials, Kinds and Quantities of Fish, &c., in the Province of British Columbia, for the Year 1888.**

LOCALITY.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIALS.						KINDS OF FISH.					
	Vessels.			Boats.			Gill Nets.		Seines.		Trawl Lines.	Salmon, fresh, lbs.	Salmon, smoked, lbs.	Salmon, in cans.	Sturgeon, lbs.	Halibut, lbs.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Fathoms.	Value.	Fathoms.	Value.							No.	Value.
Fraser River and South to American Boundary.....	15	286	54000	40	633	3105	3221	140315	88750	750	1400	172	156900	1500	3677568	153500	10000	
From Fraser River to How Sound.....	2	78	3900	1	7	750	28	945	700	20	400	90	100000			22000	40000	
From How Sound to Smith's Inlet.....	...	...	...	...	8	345	22	1000	600	200	850	350	300					
From Smith's Inlet to River's Inlet.....	2	25	7000	6	78	2315	516	12200	12680	250	250	1470	55000		960000			
From River's Inlet to Skeena River.....	2	60	5500	7	217	8700	1140	56350	38600	100	100	395	150000	10700	3365112		1000	
From Skeena River to Alaska Boundary.....	1	20	2500	2	60	4680	253	13800	9200			1261	150000	1000	592534			
East Coast of Queen Charlotte's Islands.....	2	140	7000	12	8	1600	80			370	400	200	5000			20000		
West Coast of Queen Charlotte's Islands.....	2	140	7000	12	8	1600	80			200	300	145	10000		210000	5000		
From Cape Scott, V.I., to Comox River.....	1	20	500	7	217	91	165	200	240	680		145	10000			2500		
From Comox River to Victoria.....	...	...	...	...	42	1500	64			2400	2400	1200	450000	900		40000	150000	
From Victoria to San Juan.....	...	...	...	...	8	600	14			400	500	4	120					
From San Juan to Barkley Sound.....	1	20	500	2	1	100	3			150	200	200						
From Barkley Sound to Cape Scott.....	6	226	9000	17	11	1000				600	800						1000	
The Fur Seal Fleet from Victoria.....	20	129	95500	38	167	16700												
Sea Otters and hair and fur Seals purchased from Indian and other hunters, estimated...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Totals.....	52	2166	186400	48	1257	71042	5456	224865	150110	5790	8260	39	1320	13400	8833944	215500	229500	





## RECAPITULATION.

YIELD and Value of the Fisheries of the Province of British Columbia,  
for the Year 1888.

Kinds of Fish.		Quantity.	Price.	Value.
			\$ cts.	\$ cts.
Salmon, in cans.....	Lbs.	8,833,944	0 12½	1,104,243 00
do fresh.....	"	2,477,000	0 10	247,700 00
do smoked.....	"	13,400	0 20	2,680 00
do salted.....	Brls.	4,241	10 00	42,410 00
Sturgeon, fresh.....	Lbs.	215,500	0 05	10,775 00
Halibut, fresh.....	"	229,500	0 05	11,475 00
do smoked.....	"	16,000	0 10	1,600 00
Herring, fresh.....	"	122,900	0 05	6,145 00
do smoked.....	"	8,000	0 10	800 00
Oolachans, salted.....	Brls.	282	10 00	2,820 00
do fresh.....	Lbs.	20,200	0 10	2,020 00
do smoked.....	"	200	0 20	40 00
Trout, fresh.....	"	8,500	0 10	850 00
Smelts, fresh.....	"	8,000	0 06	480 00
Sardines, fresh.....	"	3,100	0 10	310 00
"Skil," salted.....	Brls.	484	18 00	8,712 00
Tooshqua.....	Lbs.	28,000	0 05	1,400 00
Assorted Fish.....	"	310,000	0 05	15,500 00
Oysters.....	Sks.	2,400	1 00	2,400 00
Clams.....	"	3,000	1 00	3,000 00
Mussels.....	"	200	1 00	200 00
Crabs.....	No.	150,000	0 02	3,000 00
Abelones.....	Boxes.	50	5 00	250 00
Fur Seals.....	No.	27,983	10 00	279,830 00
Hair do.....	"	3,500	0 75	2,625 00
Sea Otter.....	"	100	75 00	7,500 00
Walrus.....	"	21	18 00	378 00
Ivory.....	Lbs.	250	0 40	100 00
Fish Oils.....	Galls.	64,345	0 50	32,172 50
Estimate fish consumed in Province.....				100,000 00
do Shrimps, Prawns and other Fish.....				4,500 00
do Anchovies and Isinglass.....				6,000 00
Total.....				1,902,195 50
Estimate consumption by Indians—				
Salmon.....	\$2,732,500			
Halibut.....	190,000			
Sturgeon and other fish.....	260,000			
Fish oils.....	75,000			
Grand Total, approximate yield, 1888.....				3,257,500 00
				5,159,695 50

**NUMBER and Value of Vessels, Boats, Nets, Trawls, &c., engaged in the Fisheries of  
the Province of British Columbia, during the Season of 1888.**

Quantities.	Value.	Total.
	\$ cts.	
52 Vessels, 2,166 tons .....	186,400 00	
1,257 Boats .....	71,042 00	
224,865 Fathoms Gill Net .....	150,110 00	
5,790 do Seine.....	8,260 00	
39 Dogfish and Halibut Trawls.....	1,320 00	\$417,132 00
23 Canneries complete .....	569,000 00	
3 Oil Factories .....	18,500 00	
2 Freezing Establishments .....	10,000 00	
6 Salting Stations .....	21,500 00	\$619,000 00
484 Sailors and Hunters .....		} 5,940
5,456 Fishermen and Cannerymen. ....		

**THOMAS MOWAT,**

*Inspector of Fisheries for British Columbia.*





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REPORT  
ON  
FISH-BREEDING  
IN THE  
DOMINION OF CANADA  
1888.

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# REPORT

OF MR. S. WILMOT, SUPERINTENDENT OF FISH CULTURE FOR  
THE DOMINION OF CANADA, FOR THE YEAR 1888.

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The Honorable CHARLES H. TUPPER,  
Minister of Marine and Fisheries,  
Ottawa.

SIR,—I have the honor to submit herewith the annual report of fish-breeding operations in the Dominion of Canada for the year 1888, together with a general summary of the work carried on at each of the twelve hatcheries under my superintendency.

Appended will be found the individual reports containing the transactions in detail, as given by the several officers in charge of each local hatchery in the several Provinces. In these are related the methods pursued for procuring the supplies of parent fish, from which the eggs are obtained to stock the nurseries. In them will also be found remarks relating to subjects connected with the general interests of the fisheries, and fish culture, which no doubt will entitle them to a perusal and consideration.

The several fish-breeding institutions being wide apart in the performance of their work, reaching from the waters of the Atlantic to the Pacific, and located in all the Provinces of the Dominion save one, have such an unlimited water area in which to operate that, it is found very difficult, indeed almost impossible, to supply the demands that are annually made upon your Department by numerous applicants, for young fish of various kinds, to replenish waters that have become almost denuded of the better kinds of fish which formerly inhabited them; and in other cases to introduce better species into lakes, rivers and streams, to which they were not originally indigenous.

With the general increase of population, and improvements of all kinds in many parts of the Dominion, which are continually going on, it has been found that the fish, especially of the better descriptions are correspondingly decreasing, until at last it has become a necessity to institute remedial measures to restore them by the enforcement of judicious laws, for the preservation of the reduced supplies which are in some cases yet to be found; and by introducing the most approved methods for recovering this valuable source of food, and wealth to the country, ere it be wholly lost.

This desideratum has in a large degree been reached by the greater portion of the civilized governments of the world, by adopting the science of artificial fish culture, an industry which thus far wherever introduced, and extensively carried on, has produced most satisfactory results by restoring many waters to their original standard of fish wealth; and replenishing others with the higher orders of fishes by the acclimatisation of young fish reared in public fish-breeding institutions.

Whilst nearly all the countries of the Old World are actively engaged in the art of artificial fish culture, it is found that in America also, the industry has been entered into with more vigor than elsewhere, and nowhere has the same amount of effort been put forth to utilize the science of fish culture for resuscitating declining fisheries in the general interests of its inhabitants, than is shown to be the case in the United States of America, where by the almost unbounded liberality of the Federal Government, and by the larger proportion of the individual States of the Union, this work is generously supported and extensively carried on; and large sums of money are annually granted from the public treasury for the erection and maintenance of Federal and States Fish Hatcheries, and for employing professional experts, who are well versed in ichthyology, and also appointing persons having a practical knowledge of the wants in each State as Fishery Commissioners, whose



duty it is to look after the fisheries and fish-culture, and husband the work to its fullest extent. Over and above this Government patronage and support, fish culture is now being extensively carried on by private enterprise in many parts of the Union; this is shown by the fact of the numerous advertisements of proprietors of fish farms, so to speak, offering for sale fish eggs, and young fish of various kinds, bred in their private nurseries.

In the Dominion of Canada fish culture is also carried on by the Government somewhat liberally and extensively, and may be fairly classed as only second in the magnitude of its operations to the United States as a whole, but when compared with the individual States most prominent in the work, and where the population and wealth is upon a somewhat similar standard with Canada, it will be found that the latter is considerably in advance, when the quantities of young fish of the better kinds which are annually put out from the nurseries, and their cost of production, are taken into consideration.

Unfortunately, however, there are found in Canada, as well as elsewhere, illiberal, unpatriotic individuals who are inclined to find fault with any enterprise, if in the slightest degree it conflicts with their long practised selfish views, although it may be productive of the most beneficial results to the community at large. Among these are found some fishermen, many skeptics, and also ignorant persons, all of whom take pleasure in disseminating erroneous statements regarding the utility of artificial fish culture as a means of improving the fisheries of the country; and also endeavoring to put forth the idea that the expenditure on fish-breeding in Canada is both extravagant and unproductive.

It will not therefore, be considered out of place to give a few illustrations by way of comparison, with regard to the working and expenditure connected with fish-breeding institutions elsewhere than in Canada, in order that any misapprehensions which may have arisen in the minds of some portions of the community, as to extravagance and unproductiveness in the Canadian hatcheries, may be fairly overcome.

For this purpose the premier State of the adjoining Republic will be selected, as being analogous in wealth and population to the Dominion of Canada, and being the pioneer State also, where fish culture was originally introduced into the United States, contemporaneously with the origin of the work in Canada. This New York State, is still at the head of all others in the Union, in the pursuit of artificial fish-breeding, and in it are the famous Caledonia fish nurseries, originated and presided over until his death in 1887, by the late lamented Seth Green, of world-wide reputation as a leading fish culturist.

It becomes unavoidable at times to make comparisons on subjects in which the general public are concerned; and is a necessity also, in some cases in order that, the actual merits of a public industry in a country may be fairly upheld, and that any erroneous views entertained by any portion of the public on that industry may be openly dispelled. The alleged want of productiveness; and over expenditure in the Canadian hatcheries being referred to, has caused comparison to be made with the work in other countries, but in no wise intended to disparage, or underrate the mode of operations elsewhere, but simply to vindicate, and establish the economic working of, and substantial results from, artificial fish culture in Canada.

In the Annual Report of 1887, submitted by the five Fishery Commissioners of the State of New York to the Legislature, it is shown that \$27,851.75 was expended for fish-breeding purposes in that year. This sum was laid out by these commissioners in the support and maintenance of the public fish hatcheries belonging to that State as follows:—

Caledonia Hatchery.....	\$15,435 94
Cold Spring do .....	4,951 43
Adirondac do .....	4,534 51
Contingent expenditure.....	2,929 87
<b>Total.....</b>	<b>\$27,851 75</b>

The gross number of fry put out of the above hatcheries for the benefit of the State was 20,879,531 as follows:—

Whitefish .....	1,977,000
Salmon trout.....	3,227,000
Salmon ( <i>salar</i> ).....	457,150
Brook trout.....	1,620,000
Tom-cods, shad, smelts, &c.....	13,598,381
Total .....	<u>20,879,531</u>

N.B.—Tom-cods, shad, smelts, &c., are not bred in any of the Canadian hatcheries. The average cost of running the above hatcheries each was \$9,283.

The average cost of the fry put out from the above hatcheries in 1887 was \$1.33 $\frac{1}{4}$  per thousand.

There are twelve fish hatcheries in Canada; they were all run and maintained in 1887 for the sum of \$35,114, and the output of young fish from them was 77,673,000, principally all of the salmon family. But in order to make a proper comparison with the fish-breeding operations in the State of New York, as to expenditure, and productiveness, nine of the Canadian nurseries will have to be taken, whose aggregate expenditure for 1887 will amount to the same as in the American State. These nine hatcheries are all working in the general interests of the inland and Atlantic waters of the Dominion; in the same manner as the New York State nurseries are operating for the Union.

The following are the nine Canadian hatcheries with their cost of maintenance each in 1887:—

1. Newcastle Hatchery.....	\$5,367
2. Sandwich do .....	3,513
3. Ristigouche do .....	3,768
4. Sydney do .....	2,796
5. Tadoussac do .....	1,971
6. Miramichi do .....	1,347
7. Bedford do .....	3,904
8. Gaspé do .....	2,164
9. Dunk River do .....	1,260
Add proportion of Superintendent's salary.....	1,760
Total....	<u>\$27,850</u>

The average annual cost of running each of these nine Canadian hatcheries was \$3,095, being \$6,188 less than the average cost of running each of the New York State hatcheries.

The average cost of the fry put out from these nine Canadian hatcheries in 1887 was 39 $\frac{3}{4}$  cents per thousand, being about 94 cents less than the average cost per thousand in the American hatcheries.

The gross number of young fish put out of these nine Canadian hatcheries in the public waters of the Dominion in 1887 was 70,105,000, as follows:—

Salmon ( <i>Salar</i> ).....	7,195,000
Salmon trout.....	2,120,000
Brook trout.....	70,000
Whitefish.....	35,720,000
Lake pickerel ( <i>Lucioperca</i> ).....	25,000,000
Total.....	<u>70,105,000</u>

Being 49,225,469 more young fish put out of the Canadian nurseries than from the New York State hatcheries in 1887.

A recapitulation of the expenditure and productiveness of fish breeding operations in the two countries is thus:—

New York State with three hatcheries spends.....	\$27,851
Canada with nine hatcheries spends.....	27,850
<hr/>	
New York State, average cost at each hatchery.....	\$9,283
Canada do do .....	3,095
<hr/>	
New York State, number of fry put out in 1887.....	20,879,530
Canada do do .....	70,105,000
<hr/>	
New York State, cost of fry per thousand.....	\$1.33 $\frac{1}{4}$
Canada do do .....	0.39 $\frac{3}{4}$
<hr/>	

#### EMPLOYÉS AND MAINTENANCE.

##### New York State—

1 superintendent's salary, three hatcheries.....	\$ 3,000
1 assistant and four other officers, average salary each \$1,000.....	5,095
Other employés.....	2,482
Miscellaneous expenditure.....	17,274
<hr/>	
Total.....	\$27,851
<hr/>	

##### Canada—

1 superintendent's salary, nine hatcheries.....	\$ 1,760
9 officers in charge, average salaries each \$575.....	5,175
Other employés.....	3,070
Miscellaneous expenditure.....	17,845
<hr/>	
Total.....	\$27,850
<hr/>	

Numerous illustrations of a like character are at hand regarding the work of artificial fish-culture in other parts of the neighboring Union, and in the Old World; and in the majority of cases it would be found that, for the amount of money expended for its maintenance—fish-breeding as carried on in Canada—will show less outlay, with greater returns than elsewhere.

From the above comparison in relation to fish-breeding operations it must appear that the industry in Canada is not expensively carried on, but on the contrary should receive the most favorable consideration from Parliament and the country for its economic working, and its great productiveness as a means for benefitting the community at large in replenishing the great water areas, with the most highly prized descriptions of fish at such small cost.

In connection with the successes which have attended fish-cultural operations in the Dominion, many evidences of a gratifying nature will be found inserted later on in this report. But it may not be inappropriate to give here in advance, an extract from an address delivered at a conference meeting of the Fishery Commissioners of the Great International Fisheries Exhibition, in London, by Prof. G. Browne Goode, of the Smithsonian Institution, Washington, and Fishery Commissioner for the United States; when speaking of fish-cultural work in America, he said:—"It seemed to him that the Canadian Department of Marine and Fisheries was one of the most valuable organization in the world, and that their system of gathering statistics was one which other countries ought to study with a great deal of care. Another matter which he looked upon with admiration was the great progress Canada had made in fish-culture during the past number of years, and more especially under the direction of Mr. Wilmot, who was one of the pioneers of fish-culture in America."



## GROSS NUMBER AND DESCRIPTION OF FRY PUT OUT OF THE CANADIAN HATCHERIES IN 1888.

The following statement will show the numbers of young fish of all kinds that were hatched, and turned out from the several fish hatcheries in the Dominion of Canada during the year 1888. The quantity will be found to be in excess of any previous year. The classification and species were as follows:—

Atlantic salmon ( <i>salmo salar</i> ).....	8,156,000
Pacific salmon ( <i>quinnat and saw-quai</i> ).....	5,807,000
Salmon trout (Great Lake) ( <i>Namaycush</i> ) .....	7,320,000
Brook trout ( <i>salmo fontinalis</i> ).....	176,000
Pickarel ( <i>doré</i> ) ( <i>lucioperca</i> ).....	25,000,000
Black bass (small mouth).....	1,000,000
Whitefish ( <i>Coregonus albus</i> ).....	40,650,000

Grand total ..... 88,109,000

The reports from the several officers in charge of the hatcheries give the most satisfactory accounts of the healthy and active state of the fry when planted in the several waters selected for them; the losses in transportation were so very trifling as to be almost unworthy of mention, although in a great many instances the places where they had to be carried to were at long distances from the hatcheries, and many difficulties on the journeys had to be overcome.

### SCHEDULE OF FRY AND SEMI-HATCHED EGGS PUT OUT OF EACH HATCHERY IN 1888.

A statement is here given of the numbers, and kinds of fry, and eyed-eggs far advanced in development, that were distributed from the individual hatcheries into various waters, and transferred to other hatcheries; the particular waters in which the young fish were planted will be more particularly described in the several reports of the officers in charge of the individual hatcheries, in the Appendices hereto attached.

### SCHEDULE of Fry and Eyed-eggs, 1888.

No.	Hatchery.	Province.	Fry put out.	Eyed-eggs transferred to other Hatcheries.	Species.
1	Fraser River.....	British Columbia	5,370,000	.....	Salmon ( <i>Nerka</i> ).
	do .....	do .....	437,000	.....	do ( <i>Choutcha</i> ).
2	Sydney .....	Nova Scotia .....	1,559,000	.....	do ( <i>Salar</i> ).
3	Bedford .....	do .....	1,400,000	.....	do do
	do .....	do .....	190,000	.....	Salmon-trout ( <i>Namaycush</i> ).
	do .....	do .....	2,800,000	.....	Whitefish ( <i>Coregonus</i> ).
4	Dunk River .....	P. E. Island .....	.....	750,000	Salmon ( <i>Salar</i> ).
5	St. John River .....	New Brunswick.	537,000	.....	do do
	do .....	do .....	805,000	.....	Salmon-trout ( <i>Namaycush</i> ).
	do .....	do .....	2,800,000	.....	Whitefish ( <i>Coregonus</i> ).
6	Miramichi .....	do .....	1,290,000	.....	Salmon ( <i>Salar</i> ).
7	Ristigouche .....	Quebec .....	1,720,000	50,000	do do
8	Gaspé .....	do .....	800,000	.....	do do
9	Tadoussac .....	do .....	850,000	.....	do do
10	Magog .....	do .....	2,125,000	.....	Salmon-trout ( <i>Namaycush</i> ).
	do .....	do .....	1,350,000	.....	Whitefish ( <i>Coregonus</i> ).
11	Newcastle .....	Ontario .....	4,200,000	4,040,000	Salmon-trout ( <i>Namaycush</i> ).
	do .....	do .....	176,000	.....	Brook-trout ( <i>Fontinalis</i> ).
	do .....	do .....	2,700,000	.....	Whitefish ( <i>Coregonus</i> ).
	do .....	do .....	1,000,000	.....	Black Bass (Small Mouth).
12	Sandwich .....	do .....	31,000,000	11,000,000	Whitefish ( <i>Coregonus</i> ).
	do .....	do .....	25,000,000	.....	Pickarel, Doré ( <i>Luciopercha</i> ).
	Total Fry put out. ....	.....	88,109,000	.....	

In the "eyed egg" column of the above schedule the following explanations are to be given:—

The 11,000,000 eyed whitefish eggs (just previous to their final development) were transferred from the Sandwich Hatchery to the following nurseries to be hatched and then distributed in the waters of the several Maritime Provinces named:—

Bedford Hatchery, Nova Scotia.....	3,000,000
St. John River Hatchery, New Brunswick.....	3,000,000
Magog Hatchery, Quebec.....	2,000,000
Newcastle Hatchery, Ontario.....	3,000,000
	<u>11,000,000</u>

The 4,040,000 eyed salmon trout eggs, were transferred in like manner from the Newcastle Hatchery in Ontario, to the following nurseries for hatching and distributing:—

Magog Hatchery, Quebec.....	2,500,000
St. John do New Brunswick.....	1,000,000
Bedford do Nova Scotia.....	500,000
Ottawa do Ottawa.....	44,000
	<u>4,040,000</u>

The 50,000 eyed salmon eggs were transferred in like manner from the Ristigouche Hatchery to the Miramichi Nursery for distribution, viz:—

Miramichi Hatchery, New Brunswick.....	<u>50,000</u>
--	---------------

The 750,000 eyed salmon eggs were transferred from the Dunk River Hatchery, in Prince Edward Island, to the Bedford Hatchery, by reason of the breakage of the dam, and shutting off the water supply to the Dunk River Hatchery.

Bedford Hatchery, Nova Scotia .....	<u>750,000</u>
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#### FISH EGGS COLLECTED FOR THE HATCHERIES DURING THE YEAR 1888.

A statement is here given of the quantities of fish eggs of all kinds that were collected and laid in the hatching troughs of the several nurseries during the year 1888. The number in the gross amounting to 98,214,000. Their general appearance at the present time as reported by the several officers in charge is very satisfactory. The following table will give the names of the hatcheries, their location, the number of eggs in each, and their species.

It will be noticed that no supplies of eggs were procured at the St. John River, Dunk River, and Magog Hatcheries during the past season for reasons hereafter mentioned. Quota of eyed eggs will however, be forwarded to these nurseries and to others also in the Maritime Provinces, at the proper time for transshipment<sup>s</sup> from the Newcastle and Sandwich hatcheries in Ontario.

The following is the schedule of eggs collected in 1888 :—

No.	Name of Hatchery.	Province.	No. of Eggs.	Species.
1	Fraser River.....	British Columbia.....	4,424,000	Salmon ( <i>Saw-guai</i> ).
	do .....	do .....	497,000	Salmon ( <i>Quinnat</i> ).
2	Sydney.....	Nova Scotia, (C. B.).....	2,678,000	Salmon ( <i>Salar</i> ).
3	Bedford.....	do do .....	1,100,000	do do
4	Dunk River.....	Prince Edward Island.....		
5	St. John River.....	New Brunswick.....		
6	Miramichi.....	do .....	830,000	do do
7	Ristigouche.....	Quebec.....	1,500,000	do do
8	Gaspé.....	do .....	350,000	do do
9	Tadoussac.....	do .....	1,685,000	do do
10	Magog.....	do .....		
11	Newcastle.....	Ontario.....	5,800,000	Salmon trout ( <i>Namaycush</i> ).
	do .....	do .....	150,000	Brook trout ( <i>Fontinalis</i> ).
	do .....	do .....	3,000,000	Whitefish ( <i>Coregonus</i> ).
	do .....	do .....	1,200,000	Black bass ( <i>Small Mouth</i> ).
12	Sandwich.....	do .....	40,000,000	Whitefish ( <i>Coregonus</i> ).
	do .....	do .....	35,000,000	Pickarel, doré ( <i>Lucioperca</i> ).
			98,214,000	

**GRAND TOTAL OF FRY PUT OUT OF THE HATCHERIES SINCE THE INDUSTRY OF FISH BREEDING COMMENCED IN CANADA.**

The following schedule will show the gross number of all kinds of fry which have been turned out of each hatchery in the Dominion since their commencement; the table will give the year in which each nursery began operations; also the Province, and the local name by which each hatchery is designated, and the output of fry from each of them annually. The grand total of young fish as shown in the table is *six hundred and thirty-six millions eight hundred and forty-four thousand nine hundred*. They were comprised of the best known commercial fishes in the country; 463,709,000 were of the salmonoid family; such as salmon of the sea, salmon-trout of the great lakes, speckled trout of the streams, and famous whitefish (*coregoni*); the balance, or 173,135,900, were of the percidæ family; such as the lake pickerel, doré or wall-eyed pike, and small mouth black bass.



STATEMENT showing the Places where, and the Years in which the several Fish Hatcheries have been erected; also the number of Fry distributed from each Establishment, annually, since they were built.

YEAR.	ONTARIO.		QUEBEC.				NEW BRUNSWICK.		NOVA SCOTIA.		PRINCE EDWARD ISLAND.	BRITISH COLUMBIA.	TOTALS.
	Newcastle.	Sandwich.	Magog.	Tadoussac.	Gaspé.	Ristigouche.	Miramichi.	St. John River.	Bedford.	Sydney.	Dunk River.	Fraser River.	
	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1868-1873.	1,070,000												1,070,000
1874.	350,000					100,000	60,000						510,000
1875.	650,000			60,000	110,000	608,000	150,000						1,570,000
1876.	700,000	8,000,000		150,000	50,000	300,000	60,000		395,000				9,655,000
1877.	1,300,000	8,000,000		1,180,000	1,051,000	600,000	320,000		1,000,000				13,451,000
1878.	2,605,000	20,000,000		1,707,000	650,000	1,015,000	665,000		1,400,000				27,042,000
1879.	2,602,700	12,000,000		1,250,000	1,597,000	1,470,000	1,025,000		1,740,000				21,684,700
1880.	1,223,000	13,500,000		1,155,000	730,000	1,500,000	895,000	170,600	730,000		500,000		21,013,600
1881.	3,300,000	16,000,000	200,000	334,000	500,000	740,000	770,000	50,000	680,000		375,000		22,949,000
1882.	4,841,000	44,000,000	975,000	600,000	530,000	1,400,000	640,000	588,000	850,000	315,000	1,060,000		55,799,000
1883.	6,053,000	72,000,000	250,000	995,000	530,000	300,000	925,000	72,600	800,000	689,000	1,210,000		83,784,600
1884.	8,800,000	37,000,000	100,000	985,000	859,000	940,000	795,000	811,000	1,000,000	853,000	1,000,000		53,143,000
1885.	5,700,000	68,000,000	300,000	720,000	791,000	650,000	900,000	155,000	670,000	772,000	1,000,000		81,067,000
1886.	6,451,000	57,000,000	1,400,000	1,627,000	576,000	1,380,000	945,000	2,181,000	960,000	1,179,000	400,000		76,724,000
1887.	5,130,000	56,500,000	675,000	900,000	630,000	1,500,000	900,000	2,472,000	4,230,000	1,415,000	501,000		79,473,000
1888.	8,076,000	56,000,000	3,475,000	850,000	800,000	1,720,000	1,290,000	4,142,000	4,390,000	1,569,000			88,109,000
Totals..	59,551,700	468,000,000	7,375,000	11,513,000	8,893,000	14,225,000	10,250,000	10,649,200	18,845,000	6,752,000	6,145,000	14,646,000	636,844,900

NOTE.—The particular descriptions of Fry above enumerated were as follows:—

*Salmonidae*—Atlantic and Pacific salmon, salmon trout of the Great Lakes, and speckled trout of the Streams... 159,059,000  
do Whitefish (*Coregonus*) of the Great Lake region... 304,650,000  
*Percidae*—Pikelet, or Dore (*Luciperca*) and Black Bass (1,000,000)..... 173,135,900

Grand Total of all kinds ..... 636,844,900

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SUMMARY OF PROCEEDINGS AT EACH OF THE HATCHERIES IN THE DOMINION DURING 1888.

In the following condensation of the transactions at the several fish hatcheries in Canada during the past year, a statement of the number of fry put out from each, and the quantity of eggs collected in 1888 will be given, together with brief statements regarding the conditions, wants and results obtained from their operation, with other remarks.

Details in full will, however, be found more particularly described in the individual reports of the several officers in charge of each hatchery, in the Appendices of the general Report.

*Fraser River Hatchery, British Columbia.* This nursery hatched and put out 5,807,000 salmon fry native to the Pacific Coast. They consisted of the "Nerka," and "Chouicha" species. The former is the most important in the Fraser River, and generally known as the "Saw-quai." The latter also frequent the Fraser, but not so numerous as the "Nerka," the chouicha is the largest, and is known as the "Quinnat," or King Salmon. By far the greater number raised at the Fraser River Hatchery is the "Saw-quai" or red salmon of commerce. From the unavoidable necessity for employing unskilled men to handle and impregnate the eggs, many of the ova collected in the fall of 1887, were not fertilized and turned bad on the trays.

The hatching period on the Pacific Coast is much earlier than on the Atlantic side. At the Fraser River Hatchery, a large proportion of the fry hatch in January, whilst in the Atlantic Province nurseries the fry are not produced until April and May and in some instances June is reached before the young fish emerge from the eggs; the period of incubation being wholly dependent upon temperature accounts for the earlier hatching on the Pacific side. There has been put out of the Fraser River Hatchery during its four years existence, about 14,600,000 fry. They have been planted in rivers selected upon the judgment of the resident officer in charge of that institution. It is now ascertained from certain certificates attached to this report that some saw-quai salmon are now found in the rivers of Vancouver Island, where they were planted from this hatchery, but in which this species were never known before.

The quantity of ova laid down last fall is considerably less than the previous year. They amount to 4,921,000 as compared with about double that number in 1887. Unusually heavy freshets in the rivers interfered with the capture of parent fish and consequent diminution in the number of eggs. Of the number of spawning fish captured, only about one-fourth were females, and some of these had shed portions of their eggs before being caught. A great difficulty is experienced in conveying the eggs to the hatchery from where they are taken far up river in remote places.

Mr. Mowat, the officer in charge, quotes the first appearance of shad in the Fraser River this year and that some were taken there in the salmon nets. Last year information was given that these fish were around Vancouver Island. This indicates the migration of these fish up the coast northward from where they were first planted as fry in the Sacramento River, by the United States Fish Commission, by whom the young shad were brought across the continent from the Eastern States of the Union. An appeal is made that on account of this successful transportation and acclimatization of shad to the Pacific coast, the Canadian Department of Fisheries should in like manner undertake the planting of quantities of young shad in the rivers of British Columbia, and thus give additional importance to the fisheries of that Province. A request is renewed this year to have the whitefish also introduced into some of the inland lakes of British Columbia, which it is stated are well adapted for them.

The hatchery is said to be in good repair, the only immediate requirement is a new flume to conduct the water into the building, the old one has become decayed and leaky.



Some interesting letters will be found in the Frazer River reports regarding the great improvement made in certain rivers in Oregon, by means of supplying them with fry from hatcheries established upon them. See general report under heading "practical results from artificial fish-breeding."

(2.) *Sydney Hatchery, Cape Breton*, reports a distribution of 1,559,000 salmon fry in some eighteen of the most important rivers of Cape Breton. They were put out in the best possible condition, without accident, or loss worthy of mention. During the past autumn 554 parent salmon were captured and confined in pens, at the fishing stations on the Margaree, Sydney, Salmon, Middle and Lower Middle Rivers; 401 were females and gave 2,678,000 eggs, or an average of 6,695 to each female; these parent fish were returned to the river again in a lively condition; a fence was built on the water line at the hatchery, and a new scow for transporting salmon. The building will require painting, and a new floor laid in the hatching room, next year.

(3.) *Bedford Hatchery, Nova Scotia*, From this nursery were put out 4,390,000 young fish as follows: 1,400,000 sea salmon, 190,000 salmon trout and 2,800,000 whitefish; the two last named fishes were produced from eyed-eggs transferred from the Ontario hatcheries. These were planted in ten of the lakes of the Province well adapted for their future growth. The Atlantic salmon were distributed in no less than twenty-six of the most prominent rivers, in twelve of the Counties of Nova Scotia. The most satisfactory results attended the hatching and distributing of the salmon and whitefish. The same success was not experienced with the salmon-trout, these when about to emerge from the ova died in very large numbers; their loss is attributed to the unsuitability of the water which supplies this hatchery (for the growth of salmon-trout) as it appears that a portion of these eggs were sent to temporary hatcheries at Lochaber, and Sheet Harbor, where the most perfect success was met with. In this latter view of the matter, the officer in charge urges the importance of obtaining further supplies of trout and whitefish from Ontario, to stock the many lakes which abound in the Province of Nova Scotia.

One hundred and eighty-four parent salmon in all were obtained during last fall to supply this nursery with eggs—104 were females and gave 1,100,000 ova, making an average of about 10,575 eggs each. Much disappointment was felt at not getting a larger number of salmon at the Musquodoboit River, where full arrangements were made to secure them. The interference of a fishery warden allowed a number of the salmon to escape—and other rivers had to be resorted to. To ensure greater economy and certainty for securing parent salmon in the future, arrangements of a permanent nature should be made at the Musquodoboit River by the establishment of a Government station, with an extensive reservoir alongside, in which a full supply of fish could be safely kept until spawning time. This plan should be completed early next spring in order to take advantage of the early runs of fish. Necessary improvements were made during the past season in the taking up, re fitting and otherwise improving the conductor pipe, for supplying the hatchery with a better run of water. The establishment having been renewed throughout will require little expenditure upon it for some time.

A very lucid description of the benefits which have been experienced from the operations at this hatchery in the increase of salmon in many rivers in Nova Scotia, will be found in the Bedford report hereto attached; and will also be referred to under the heading:—"Practical Results from Fish Breeding."

(4.) *Dunk River Hatchery, in Prince Edward Island*. From the breakage of the dam at this hatchery the supply of water was stopped, and the establishment has been closed up since. A large supply of salmon eggs were laid down in this nursery in the autumn of 1887, and were progressing satisfactorily until the dam gave way from the effects of a freshet in the river in March last; as the dam could not be repaired at this time, it was necessary to transfer the eggs remaining uninjured elsewhere. The Bedford Hatchery being most convenient, and after delays and difficulties, the sound eggs, some 750,000 were safely conveyed to the Nova Scotia hatchery, where in due course they were hatched and distributed along with the Bedford complement in the waters of that Province. There are indications of a con



siderable increase in the catch of salmon around the coast of Prince Edward Island and particularly in the rivers where fry have been planted from the hatchery. The officer in charge estimates the cost for repairing the dam at \$300. A further supply of breeding troughs and trays will be required to put the hatchery in proper working condition.

(5.) *St. John River Hatchery, Province of New Brunswick.* This nursery turned out a large number of young fish during the past season, consisting of salmon, salmon-trout and whitefish, principally the two latter kinds, the eggs of which were transferred from the Newcastle and Sandwich hatcheries in Ontario; of these 2,800,000 were whitefish, 805,000 were salmon-trout, and 537,000 salmon—total output was 4,142,000. The young whitefish and salmon-trout were planted in twelve lakes in the Counties of York, Carleton, Charlotte and Victoria; the salmon fry were put in the St. Croix, Utopia, Magaguadavic, Tobique and St. John Rivers. Numerous applications have already been made for salmon, and salmon-trout fry for distribution the coming spring. Much dissatisfaction is expressed by the people, regarding the apparent difficulty in procuring parent salmon to fully stock the hatchery with eggs. From the serious difficulties and expense which have hitherto attended the capture of parent salmon in the St. John and Tobique Rivers this part of the work was abandoned this year, and consequently no eggs were obtained for this nursery this season. It is proposed, however, to transfer from the Ristigouche Hatchery eyed salmon eggs, and from the Newcastle and Sandwich hatcheries in Ontario, eyed eggs of the salmon-trout, and whitefish, in order that the St. John nursery may have a partial stock of young fish for distribution in New Brunswick waters next season. The officer in charge expresses a preference for procuring supplies of eggs from the salmon to be captured at the St. John Harbor, where it would be more convenient, and also under his immediate supervision, and be more economical after the system was properly established. Much regret is expressed at the temporary cessation of work at the hatchery, by reason of the difficulties which have attended the capture of parent salmon up the Tobique, more especially as the usefulness of the institution for stocking the rivers and lakes with fish is beginning to be felt and acknowledged by the public, who highly appreciate the work, and manifest great interest in the artificial culture of fish. The numerous applications which are made for fry to replenish over-fished waters are strong evidences of the popularity of this fish-breeding institution. It is, therefore, of the greatest importance that measures should be instituted at once, by which a large supply of parent salmon should be obtained next season, from which this hatchery could be stocked with its necessary quota eggs.

Evidences of the benefits from planting salmon-trout and whitefish fry in some of the lakes are to hand, as immature fish of these species have already been taken in waters where they were never before known, but in which these fry were planted from this hatchery; and it is also admitted on all hands by fishermen and others that the run of salmon in the Tobique had improved by one-half more within the last two or three years. A further evidence is the fact of the river being leased by the Local Government to American anglers for fly-fishing purposes, and that a large number of salmon were so taken, which is a circumstance not hitherto known.

(6.) *Miramichi Hatchery, Province of New Brunswick,* gives a return of 1,240,000 salmon fry, natives of that river, and 50,000 from the Ristigouche River eggs. These were planted far up the branches of the Miramichi, even beyond the settlements where the best places are invariably found for the growth of the fry. These points, though at present very difficult to reach, will be more easily overcome in the future, as private parties are interested in opening out the roads to the upper reaches of the river for its better development. Extreme high water in the river prevented the capture of parent fish during a fortnight of the usual period in the fall for netting them. This freshet allowed the salmon to pass far up the river, and consequently only 290 parent fish were secured for the uses of the hatchery, which reduced the number of eggs collected much below that of former years. One hundred and fifty of the salmon were females; they gave a total of 830,000 eggs or an average of

5,550 each. These are reported as being in a very healthy condition. The heavy freshet referred to caused a breakage in the supply pond, which was at once repaired, and the hatchery with all its requirements inside and outside, except a new towing scow, which must be built to replace the old one, are in good condition.

Some very satisfactory letters from leading persons regarding the benefits which have resulted from the artificial breeding of salmon in this hatchery, are sent in by the officer in charge and are inserted in the general report under the heading of "Practical Results from Fish-breeding."

(7.) *Ristigouche River Hatchery, Province of Quebec.* The officer in charge of this establishment reports the distribution of 1,720,000 salmon fry in the Ristigouche River, and its three principal branches, the Matapedia, the Upsalquitch and the Kedgewick, and also in the Jacquet and Nipissiguit Rivers, which empty into the Bay des Chaleurs a long distance below the mouth of the Ristigouche. There were also 50,000 semi-hatched eggs transferred to the Miramichi Hatchery in the month of April. The fry planted in the Ristigouche and its branches, and those conveyed to the Jacquet and Nipissiguit were put out in a strong, healthy and active condition. The fruits of the former plantings of Ristigouche fry in the Nipissiguit River are being experienced by anglers, who are strong in the belief that salmon of the Ristigouche family are now caught in the Nipissiguit. Their larger size, different shape and general appearance go to show that they are the product of the fry brought from the Ristigouche Hatchery in former years.

Owing to the unusually heavy freshet which prevailed in the Ristigouche River in the early part of June the first run of salmon passed by before the nets were set at the head of the tide-way; and the anticipated numbers of parent salmon for the uses of the hatchery were not obtained. The two departmental nets gave only 246 fish, these with 107 purchased from fishermen, made a total of 353. This number was reduced to 315 when taken from the reservoir in the month of November for spawning operations. Fungoid growth from the effects of wounds in capturing them, and the escape of others caused a loss of 38 from the original number put in the reservoir. One hundred and fifty-five females gave 1,500,000 sound eggs, with an average of 9,675 each. These fish after spawning were liberated in the tide way in better condition than the ordinary spent salmon far up river.

The severe freshets during the past season have very materially injured the banks of the reservoir or retaining pond in which the parent salmon are kept; considerable repairs will require to be made to make it safe for the retention of fish next season. The necessity for this is shown when some hundreds of salmon are kept in it, which if lost by any imperfection in the construction of the water pen would allow the salmon to escape and thus shut off the supply of eggs for the hatchery for the season. A small building was erected alongside the reservoir for the convenience of the watchmen, and prevention of injury by frost to the eggs during the time of their manipulation. The hatchery and its outworks are, generally speaking, in very good condition.

It is most desirable that another departmental station should be selected near the head of the tide way in order to ensure a full supply of salmon to fill the hatchery with eggs, as constant demands are now generally made upon this institution from other parts of the country for the introduction of the more famous family of Ristigouche salmon into other rivers where the native fish are smaller. The great benefit derivable from having fishing stations absolutely under departmental control, and worked by our own men and nets, is that greater certainty in procuring full supplies of salmon would be the result, and the chances of injury to the fish would be almost wholly overcome, thereby reducing the loss from fungoid disease to the minimum. Experience has shown that the salmon taken in the departmental nets are kept in the reservoir through the whole season, escaping fungoid disease and losses of any kind comparatively speaking, whilst those purchased from the ordinary fishermen are subject to fungus (*saprolegnia ferax*) and many die. With the working of a third station and net, both money and the loss of salmon would be saved, as the third stand of nets could be operated at a very trifling cost over the two now in use, and



thus do away with the purchase altogether from fishermen and give a more healthy class of parent salmon to procure eggs from. A conviction has set in with the large majority of fishermen, causing them to advocate the usefulness of artificial fish-culture as a sure means of supplementing the natural laid ova, by which the Ristigouche River and its estuary fisheries have now become so prominent with anglers and fish-dealers in Canada and the United States.

(8.) *Gaspé Hatchery, Province of Quebec.*—This nursery distributed in the Dartmouth, St. John, and York Rivers 800,000 salmon fry. They were deposited in these waters in good condition. The number of parent salmon secured in the retaining pond was only 49, being much less than usual. Owing to very high water in the Dartmouth the nets could not be set until the middle of June, when the principal run had passed. To obviate a like occurrence in the future it is recommended that the stock of salmon for this nursery be netted in Gaspé Basin, where greater reliance could be placed for getting increased numbers from the earlier and larger runs of salmon, and where the heavy freshets from the river would not affect the nets. Some better method than the present is necessary in order to give certainty for stocking the hatchery with eggs beyond the small quota of the past years. Of the 49 fish obtained last season 36 were females; they gave 35,000 eggs, with an average of 9,700 to each. These eggs are reported as progressing quite favorably. The building is in fair repair, but is sadly in want of a coat of paint to preserve it.

The anglers and canoemen report a heavier description of salmon taken on the St. John River during the past few years—the former average being about 15 lbs., whilst of late they have reached a general average of some 18 lbs. This is attributed to the putting of large numbers of Dartmouth River fry, from the Gaspé Hatchery into the St. John River. The Dartmouth family of salmon have always been known to be larger than the St. John River fish, and differing somewhat in their resemblance.

(9.) *Tadoussac Hatchery, Province of Quebec.* There were successfully hatched and distributed from this hatchery in 1888, fry to the number of 850,000, the greater proportion of these were put in the rivers and small lakes which empty into the Saguenay; and 15,000 were carried to the St. Ann River, below Quebec, without the loss of a single fish, to the great astonishment of the proprietor of that river and several witnesses who saw them. There were laid down in this hatchery last fall 1,685,000 healthy salmon eggs; they were taken from 160 females, each averaging 10,000 ova. Total number of males and females captured in the government net and safely kept in the salt water pond, at Tadoussac, from May till November, was 244. Only one salmon was lost of this number by accident, in being caught in the iron gate of the reservoir. After spawning these salmon, they were turned out in the Saguenay River in a strong and active condition. Some evil-disposed persons made attempts to let the salmon out of the pond by cutting the ropes; and on two occasions the nets were cut. The watchmen discovered them in time to prevent serious loss.

The lower part of the building needs repairing, the superstructure is sound, but the foundation part being exposed to moisture has become decayed; other repairs about the wharf are required, some flooring and shingling is absolutely necessary. The estimated cost for full repairs is \$500. The smolts (*young salmon*) grown from the fry put into the Tadoussac Lake, above the hatchery, are seen in great numbers; likewise at the Mowats Lake, where it empties into the St. Lawrence, great numbers of young salmon have been seen and caught there. This small lake gives the most indubitable evidence of the rapid growth of hatchery bred fry to the smolt stage. It is a mountain lake wholly inaccessible by parent salmon, it was prospected and recommended by the gentlemen whose name it bears as a suitable depository for the growth of the salmon fry, and was largely stocked with them from the Tadoussac Hatchery in 1886, and with additional annual supplies since. The little lake just above the hatchery is another positive evidence of the certain and healthy growth of hatchery bred fry during the transitory periods in their life as parrs, as smolts, and grilse, prior to their reaching maturity in the ocean. This



hatchery lake, like the Mowat's lake, is also inaccessible by adult salmon; the little streamlet which runs from it only a short distance, drops almost perpendicularly about 100 feet into the tidal water of the Saguenay. The lake has been supplied regularly with thousands of salmon fry from the Tadoussac Hatchery since 1876, and as regularly since large numbers of smolts have been seen passing down from it to the salt water. The following quotation from the report of a gentleman whose whole lifetime has been given to the care and study of salmon and speaking of this Tadoussac Lake, where he was on duty for many months, he says: "Many thousands of fine full grown smolts went from this lake to sea last October and November, as well as young salmon weighing from three-quarters of a pound up to six pounds. There may have been probably 100 fish of the latter size. Seven of them were retained by the caretaker, the balance were allowed to escape."

These illustrations regarding the growth of artificially bred salmon fry are given in refutation of the statements which are put forth by ignorant and prejudiced persons that, "all artificially bred fry die, as the work is contrary to nature." A perusal of the report on the Tadoussac Hatchery, No. 9 in the Appendices hereto, will give further information on the subject.

(10.) *Magog Hatchery, Province of Quebec.* This nursery was wholly supplied the past year with salmon-trout, and whitefish eggs in a semi-hatched state, they were transferred from the Newcastle and Sandwich hatcheries in Ontario; the former sending 2,500,000 salmon-trout eggs, and the latter 1,500,000 whitefish eggs. From the salmon-trout eggs 2,125,000 fry were hatched, and in like manner 1,350,000 young whitefish were produced. Both species were distributed liberally in the principal lakes in the Eastern Townships of Quebec. Some of the lakes were very distant from the hatchery, the fry nevertheless in all cases were put into their future homes to all appearances in a strong and healthy condition. Lake Memphramagog being the larger lake received the greater supply of fry. It has been found to be more convenient and economical to supply the Magog Hatchery with eyed-eggs from the Newcastle Hatchery, than to procure them from fish as formerly taken from the Eastern Township lakes. The hatchery with its appliances are reported to be in good condition and not requiring repairs of any kind for the present: Evidence of the benefits which have arisen from the work done at the Magog nursery is shown by a certificate numerously signed by fishermen and others, and will be found included in the general report under "Practical results from Artificial Fish-breeding."

(11.) *Newcastle Hatchery Province of Ontario.* The distribution of fry and semi-hatched eggs from this establishment was larger than usual. Both fry and eggs were largely distributed in the Provinces of Ontario, Quebec, New Brunswick, and Nova Scotia. On account of the unusually late spring the hatching of the eggs, and distributing of the fry, was also later. The final put-out of the fry reached the 12th July, at which time, and for some time previous, the temperature ran very high, causing additional care and attention to be given to the young fish during their transportation.

There were 12,116,000 young fish and eyed-eggs put out of this hatchery in 1888. 8,076,000 of these were fry of the salmon-trout, whitefish, speckled-trout and bass; they were wide spread throughout the Province of Ontario. The balance, or 4,040,000 were the eggs of the salmon-trout, which were transferred to hatcheries in Quebec, New Brunswick, and Nova Scotia, just before the ova were ready to hatch. The particular quantities that were distributed in the several localities of the Provinces, will be found minutely described in the individual hatchery reports in the Appendices. In brief it may be stated that the salmon-trout, and whitefish fry, were put in some thirty of the greater, and smaller lakes, and other public waters of Ontario. The speckled-trout were apportioned to numerous applicants for stocking streams in various localities in the Province.

The demands for brook-trout are annually increasing, and are quite beyond the present means of supplying unless additional grants are given to purchase the eggs from American trout breeders, or some systematic method be instituted to gather ova from the native trout in our own waters. An experiment on a small scale was

tried during the past season to grow these fish in a pond connected with this hatchery. So far it has proved fairly well; some speckled and California trout have now been in it about a year and have thriven very well, but, from the high temperature of the water in the summer months, it is a question, as the trout grow older, whether they will obtain a sufficiently healthy development to produce sound, fruitful eggs. Another year will solve the question.

The several fish ponds, since their deepening and cleansing, give marked evidence of their greater purity of water and adaptability for growing certain kinds of fish, like bass and carp, and some of them may prove suitable for the growth of trout, as the latter, in some instances, have, during the past season, reached some ten inches in length. The ponds are well adapted for rearing black bass, as a very large number of fry were bred in them the past summer and a fair stock of adult bass are in them at present.

The main dam, enclosing the water supply for the hatchery as well as the race-way, is in a very safe condition; its present appearance for strength and durability would indicate no expenditure being required upon it for some time to come.

The supplies of ova collected last autumn for the wants of this parent institution and for sending quota, of eyed eggs from it to the Maritime Province hatcheries are considerably short of other years, the gross number amounting to some 5,800,000 as against 9,000,000 and upward in 1887. The severity of the weather experienced in collecting eggs at Pigeon Island in Lake Ontario and in the Georgian Bay, together with a reduced number of parent fish being captured at these points, caused this short crop of eggs. A diary of the proceedings at Warton in collecting eggs will be found in the Newcastle report, and will also show the comparative falling off, as between 2,940 mother fish in 1887 and only 1,690 in 1888, a decrease of 1,250 females to get eggs from in 1888.

It is most desirable that some first-class fishing station should be taken possession of by the Department for the exclusive purpose of capturing parent fish to stock the hatcheries with full supplies of eggs. The experience of the last year has shown that a fishing station occupied by pound-nets during the whole (open) season will have so thinned out the numbers of mother fish that would otherwise be found on the spawning grounds during the (close) season of November that such a fishing station is made inadequate to supply the necessary quota of eggs for the now extended operations at Newcastle, or by which this hatchery can possibly transfer to the Maritime Province nurseries the quantities of eyed eggs necessary to fill their wants. This want will be felt in a larger degree the coming season, and as this demand for introducing the more important commercial fishes, inhabitants of the great lake region of the west, into the numerous fresh water areas of the Lower Provinces, is greatly on the increase, it is essentially necessary that timely efforts should be put forth to accomplish this most desirable end.

In view of this growing demand for supplies of salmon-trout eggs, and finding that the Colpoy's Bay fishery had proved to be too limited to furnish adequate numbers of ova, Mr. Charles Wilmot, whose special work has been, for years past, to collect these eggs, was directed to look out for more capacious limits on which salmon-trout congregate for spawning purposes, and he reports that extensive breeding grounds of these fish are to be found around Hay, White Cloud and Griffith Islands, just outside the entrance to Colpoy's Bay. The fisheries about these islands are occupied, more or less, by the Indians and are regulated by the Indian Department at Ottawa, with which satisfactory arrangements, no doubt, could be made. Chief McGregor, of the Indian tribe on the above-named islands, has already expressed his willingness to allow the work of gathering fish-eggs to be carried out there.

The condition of the eggs in this hatchery has given great anxiety and caused much additional labor and attention to be given to them, by reason of the unusually open and rainy weather which has prevailed from the time of laying them down, and all through the month of December, causing large quantities of sedimentary matter to settle upon the eggs, which is very injurious to the ova. This must be removed, and in the constant cleansing of the eggs from this filthy matter, numbers



get injured and die. Notwithstanding this serious drawback to the healthiness of the eggs, it is confidently expected that a fair percentage of fry will be produced for next season's distributions.

A number of very satisfactory letters regarding the success attending the planting of fry from this hatchery in many waters in Ontario have been received by the officer in charge of the hatchery. These will be found inserted in the general report under the heading of "Practical Results from Artificial Fish Breeding."

(12.) *Sandwich Hatchery, Province of Ontario.* This nursery, unlike the others, is wholly devoted to the breeding of whitefish and lake pickerel, and its machinery and appliances are worked by steam power, which pumps the river water to an elevation from which it feeds the numerous automatic glass incubators. The institution gives two crops of fry in the season. One whitefish, the eggs of which are laid down in the late autumn and hatch in the following spring. The other is the lake pickerel (otherwise known as doré, wall-eyed-pike or pike-perch), the eggs of which are collected in April and May, and hatch in about four or five weeks after. The average output of these two species has been about 60,000,000 of fry for the past ten years. The capacity of the hatching room, when fully supplied with apparatus which is in contemplation of being provided for the coming season, will then accommodate upwards of 100,000,000 of the above-named eggs.

The success which has attended the operation of this hatchery for benefitting the white-fish fisheries on the Detroit River and Lake Erie, and elsewhere where the fry have been planted, has quite passed beyond the region of doubt by the verification of fishermen and fish dealers, who have voluntarily given their written statements to that effect. The work of this hatchery, coupled with the nurseries on the American side, has produced such a decided increase in the take of whitefish in Lake Erie, as to cause a spontaneous demand to be made by the principal fishermen and fish dealers to their separate Governments, to enlarge the present hatcheries and increase their numbers, so that this valuable description of fish may be more bountifully supplied to the inhabitants of these countries for domestic use and commercial traffic. By a reference to the annual reports of the Fishery Commissioners of the Federal Government and of the States of Ohio, Michigan and other States, and to the fisheries reports of Canada also, it will be found that the numerous certificates which are therein given by the fishermen themselves go to prove most conclusively the statements above made.

From the Sandwich hatchery there were put out last year 42,000,000 of whitefish fry; and 25,000,000 of pickerel, (wall-eyed-pike), in all 67,000,000. These were freely distributed in Lakes Huron, Erie, Ontario and St. Clair; and some millions of these in the "eyed" state, were transferred to Quebec, New Brunswick and Nova Scotia. The fry in all cases were reported to be distributed in the several waters in splendid condition.

The method adopted to procure supplies of whitefish eggs for this hatchery is precarious, having to rely largely upon the humour, or avarice of the fishermen, who occupy fishing stations on the Detroit River. By the action of the Department in exercising its rights to the Bois Blanc Island Fishery, the difficulties hitherto experienced in getting ova, will be in part overcome by operating it wholly by the employes of the hatchery. This one station will not, however, suffice for the full wants of the hatchery, and it becomes a necessity that some of the other stations on the river now licensed by individuals should be so controlled by the Department, as to make it compulsory upon the licensees to allow the fish taken by them at the spawning season, to be manipulated for the benefit of the Government hatcheries exclusively. Failing such arrangement a "close season" of the month of November should be established, in which no whitefish should be taken, except through the medium of the hatchery employes and for Government purposes only. At present no "close season" is set aside, or, at any rate, enforced on this river; the consequence is whitefish are netted all through their spawning season without let or hindrance of any kind, and the fishermen who are permitted to carry on this unnatural and destructive work for our Canadian fisheries, multiply the baneful effects of this un-



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patriotic work from sordid motives, by selling the eggs from the mother fish, (which nature in her wisdom destined for their own waters,) to be carried to a foreign country to enrich waters there with this valuable fish from which Canada can derive no benefit whatever, but rather decimating her own waters of a rich source of wealth, by satisfying the greed of a few fishermen, only for self-aggrandizement, and entailing upon this country great loss to her fisheries for the present and the future.

The number of whitefish eggs collected for this hatchery the past autumn was about 40,000,000. Many of these have since died from the effect of fungoil growth, and absence of fertilization. The warm weather at the spawning time created disease amongst the parent fish that were penned up, and many died; great quantities of eggs were thrown away, being incapable of receiving impregnation.

It is feared the usual number of fry will not be forthcoming next spring.

Considerable repairs and improvements will be necessary to make this hatchery reach the standard it ought to be in. The whole of the lower flat should be utilized for hatching purposes, by removing from it the quarters now occupied by the officer in charge and his family. A comfortable dwelling should be built for them close to the hatchery, where perfect supervision could at all times be had of the building, and machinery connected with it. An estimate of the cost of these improvements has been given.

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## PRACTICAL RESULTS FROM ARTIFICIAL FISH BREEDING.

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The following letters and extracts from various sources are here given as evidences of the benefits which are being experienced from the planting of fry of various kinds in the waters of Canada, from the fish-breeding establishments of the country :—

### BENEFITS FROM NEWCASTLE HATCHERY, ONT.

BELLEVILLE, 8th December, 1888.

Mr. CHAS. WILMOT,  
Government Fishery Hatchery,  
Newcastle.

DEAR SIR,—In answer to your enquiry as to the result of planting whitefish fry in the Bay of Quinté for some five years past by yourself, under instructions from the Fisheries Department, it gives me great pleasure to report to you that in my opinion the work has been very successful as far as my experience shows. During the past year the catch of whitefish has been greater than during the past fifteen years. I have been a fisherman on the bay for thirty years, and, strange to say, the whitefish taken in this section are mostly all under size, averaging a little more than a pound in weight. This small run of fish is undoubtedly the result of the placing of young fry in this vicinity during the past five or six years.

Yours respectfully,  
SAMUEL GEDDES.

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BAY OF QUINTÉ, 14th December, 1888.

Mr. C. WILMOT,  
Newcastle Fish Hatchery.

SIR,—I have been fishing in the Bay of Quinté and the lower part of Lake Ontario for the last thirty years, and can testify that the whitefish taken during last October have been far in excess, as regards numbers, than in any previous year in my recollection, and it affords me great pleasure to attribute the increase to the action of the Government in planting large numbers of young fry in the locality during the last five years.

Yours very truly,  
W. BLACH.

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BAY OF QUINTÉ DISTRICT, 8th December, 1888.

Mr. C. WILMOT,  
Government Hatchery, Newcastle.

SIR,—We, as old resident fishermen on the Bay of Quinté, beg to report to you that the placing of large numbers of young whitefish and salmon-trout in this vicinity by the Government for some years past has proved most successful.

During the last year we have shipped 12,500 pounds of whitefish, which in weight varied from one to two and a half pounds each.

We can also safely say that the large catch for the past year or two was undoubtedly owing to the placing of the fry in these waters.

Yours respectfully,

AARON M. WEISE,  
ALLAN W. WEISE.

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BAY OF QUINTÉ, GERRY POINT, 9th December, 1888.

Mr. C. WILMOT,  
Newcastle Hatchery.

DEAR SIR,—I am now sixty-two years of age and have been fishing in this locality since I was sixteen, and can certify that the catch of whitefish during the past two years has been greater than for years, and I attribute the large increase of these small sized whitefish to the fact of your having planted such large quantities of the young fry in this section of Lake Ontario during the past six or seven years. The fish, so far as I can judge, weigh from one to three pounds each.

Yours truly,  
DAVID GERRY.

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AMELIASBURG, BAY OF QUINTÉ, 8th December, 1888.

Mr. C. WILMOT,  
Government Fishery, Newcastle.

DEAR SIR,—I have great pleasure in stating that the whitefish and salmon-trout placed in the Bay of Quinté and Lake Ontario by the action of the Government for some years past has been specially successful. From my own knowledge and from what I hear other fishermen say, I am quite satisfied that the large catches which have been taken in the lower sections of the lake and the Bay of Quinté lately are wholly due to the stocking of fry from the Newcastle hatchery for some years past. The fish, though small in size, are plentiful, which speaks well for the work of the hatchery.

Yours very truly,  
WM. PEEK.

I have read over the above statement of Mr. Wm. Peek's and can fully corroborate all he has said. We hope the Government will continue this work.

PETER NURSE.

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BELLEVILLE, 14th December, 1888.

Mr. C. WILMOT,  
Fish Hatchery, Newcastle, Ont.

SIR,—It gives me great pleasure to send you the accompanying certificates from some of the fishermen as to the efforts and results of the planting of whitefish and salmon-trout in this district. Dozens of complimentary proofs of the work of planting fish could be obtained from interested parties who would voluntarily certify to the great work which has been done towards the increase of the fish in the Bay of Quinté and surrounding districts.

In so far as I am personally concerned as fishery officer, I can testify from my own personal knowledge and from what many fishermen report to me, that there has been no better year for whitefish than this and the past year. It is true that most of the catches of fish are small in size, but that, no doubt, is owing to the age of the



fish. They appear to be about one and two pounds in weight, and I should judge about three years old.

I would recommend that another lot of whitefish fry be deposited in the Bay of Quinté and in Lake Ontario in the vicinity of Picton during next spring. In my opinion it is necessary to stock the waters annually with fry in order to keep up the supply, as the demand is becoming greater every year, and the appliances for their capture are also increasing.

I am, yours truly,

CHAS. WILKINS,  
*Fishery Officer.*

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BANCROFT, NORTH RIDING HASTINGS, 27th May, 1888.

Mr. S. WILMOT,  
Superintendent, &c.,  
Newcastle, Ont.

SIR,—I have much pleasure in making the following statement for the information of the Fisheries Department and yourself, viz.:—

Mr. C. Wilmot gave me about 5,000 salmon-trout fry in 1883, which I deposited in Little Island Lake, three miles from Bancroft, in good condition.

I have since caught four of these fish in the above-named lake, weighing about two pounds each, average length 16 inches. There is not the slightest doubt but that these are the fish deposited by me, as there were no fish of any kind in this lake previous to my putting them in in 1883.

Yours respectfully,

W. H. SWEET,  
*Constable for Hastings Co.*

I can also state that I caught over a dozen of these salmon trout planted in 1883, last spring in the North Riding of Hastings. They were all of a uniform size weighing about two pounds each, several of which I sent to the Deputy Minister of Fisheries at Ottawa, and others I brought home for the Superintendent's inspection. There is not the slightest doubt but that the planting of fry in North Hastings has proved to be most successful.

Yours truly,  
C. WILMOT.

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(Copy.)

To SAMUEL WILMOT, Esq.,  
Superintendent Fish Culture,  
Dominion of Canada.

SIR,—We take this opportunity of expressing to you our thanks for the benefits we have derived from the salmon-trout fry deposited by you in the Charleston Lake waters, in the year 1883. There was evidently every prospect of that species of fish becoming extinct in the said lake, but judging from the time and the size of the salmon trout taken now and during the past two years in those waters, leave it beyond a doubt that the attempt has proved a decided success and a great source of pleasure to sportsmen resorting to Charleston Lake during the fishing season. Very little or no netting is indulged in, in the same lake, the fish being mostly taken by means of bait or troll.

Knowing as we do that the foregoing statements are correct and true, we would suggest that a repetition of your former attempts be repeated from year to year, and would humbly ask that you memorialize the Government in that behalf.

We also notice that black bass are getting very scarce in these waters, and consider it very advisable that some of that species be also deposited at an early date to prevent entire depletion.

W. H. JOHNSTON, Overseer of Fisheries,	A. M. CHASSELS, Merchant.
Charlotte.	HARRY WHARTENS, Merchant.
I. B. SAUNDERS, Reeve of the Township.	W. H. JONES, Barrister.
A. ARMSTRONG.	JOHN C. BROWN, Hotel-keeper.
W. G. TARIENT, Postmaster.	ALEX. R. ALLAN, Gentleman.
L. H. ARNOLD, Merchant.	NEAL McLEAN, Mgr. Bank of Montreal.
SAND & DAVIDSON, Merchants.	I. G. LESLIE, Accountant.
R. K. ADDISON, M. D.	D. RENNEY, Inspector of Schools.
STANLEY S. CONNELL, M. D.	J. F. SCHOFIELD, Barrister.
I. B. LAMB, Druggist.	D. MANSELL, County Treasurer.
H. C. PHILLIPS, Constable.	R. B. ALGUIRE, Clerk Division Court,
GEO. BEDFORD, Merchant.	

And others.

BROOKVILLE, April, 1888.

#### BENEFITS FROM MIRAMICHI HATCHERY, N.B.

*Hon. M. Adams*, one of our most prominent public men and a leading sportsman, says: "The fly-fishing on the North-West Miramichi was better this season than it has been for the past fifteen years." Speaking of the hatchery he says: "I am a firm believer in artificial fish hatching, and I look for great results from the young fry which have been planted in the head waters of our streams, provided that those streams are properly protected, and I sincerely believe, if it had not been for the hatchery the salmon would now be nearly exterminated from our rivers."

"Take the marked increase on the main North-West River—season after season the fly-fishing was *nil*; but in 1887 there was a record of eighty-seven salmon and grilse,—this year 1888, 300 salmon and grilse were caught, and the river teeming with young fish. If, in former years the young salmon had been planted away up the rivers and in brooks, a short distance from the main rivers, as they have been for the past two years,—who could estimate the results? It was a blessing that the fish hatchery was established, for if it had not been, in my opinion, few salmon would be found in our river. The fish house is a credit to you."

*Jared Tozer*, of the firm of Tozer & McDonald, says: "I believe that the fish hatchery is a great benefit to our rivers, and think, that if it had not been for the fry planted from it, the supply of fish would now be nearly exhausted, as the almost total destruction of salmon in non-tidal waters, previous to the past two years, would have caused our rivers to be destitute of fish, if the supply had not been kept up from some other source besides the natural one. In regard to the catch of fish by my own nets, I may say it has been steadily on the increase for the last three years."

*M. Sutherland*, overseer for the upper section of the North-West and its tributaries, says: "I am a strong believer in artificial fish hatching, and I think that the hatchery on this river is the only means by which the supply of salmon has been kept up in our streams when the destruction of parent salmon on the spawning grounds, by poachers, previous to the past two years, is taken into consideration. I also approve of the method of capturing parent fish for this house, contrary to the statement published last year under my name, by the New Brunswick Inspector of Fisheries in the Report on the Fisheries," page 146.

*John Ferguson, Esq.*, a noted fly fisherman, says: "The catch of fish on the North-West was better this season than for any season during the past twelve or fifteen years. I believe that artificial fish hatching is a great benefit to our streams in keeping up the supply of this important fish."



*James Lawlor*, a net fisherman, states: "I have taken more salmon this year than for any season during the past five years. I believe that the hatchery is a great help towards keeping up the supply."

### BENEFITS FROM BEDFORD HATCHERY, N.S.

*Value of the Salmon Fisheries of Nova Scotia enhanced by fish culture.—(From Mr. A. B. Wilmot's Report.)*

"Two large rivers, the Indian and Ingraham, enter St. Margaret's Bay, into each of which a quota of young salmon has been planted from this hatchery since 1876. Now, by one who had not given the conditions as stated above proper consideration, and comparing the catch in this bay and its rivers with that of the seasons before any stocking was done, an inference unfavorable to the effects of the artificial culture would be drawn. That such a conclusion would be erroneous is shown by the statistics given by the overseers of the district and found in the returns furnished the Department of Fisheries by the Inspector of Fisheries for Nova Scotia. By referring to the report of 1881 it will be found that from the four stations included within this bay a return of 6,150 lbs. is given as the catch of salmon for that season. From these same stations the return for 1887 shows a catch of 21,425 pounds, an increase of 15,275 pounds, or over 250 per cent. larger than that of 1881. The intervening years show considerable fluctuations in the catches, due, no doubt, to adverse winds and unfavorable circumstances, yet the increase has been continuous. The catch of 1882 in this bay is given as 18,000 lbs., being an increase of nearly 12,000 lbs. over that of 1881, and appears to furnish a most striking evidence of the good results from artificial stocking. 1882 was the first year when any increase from this work could be expected from the first hatching of 1876 and 1877, as up to this date these fish would not be caught in nets of six inch mesh, as are used on our coast, and the returns show a most prompt and generous response to the efforts put forth by your Department in the work of fish breeding.

"By referring to the returns for the county of Halifax obtained from the same sources as the above, a marked increase is shown in the catch of 1887 over that of 1881, being for 1887 79,835 lbs. as against 28,376 lbs. in 1881, an increase of 51,459, or, in other words, 5,150 salmon of about 10 pounds weight each, which is about the average weight of the salmon caught on the southern coast of this Province. This increase would represent in value for this county \$10,000. It may be of interest to your Department to learn at about what cost this result has been obtained, and I may be excused for endeavoring to show how far this speculation, if it may be so termed, is paying.

"In order to do this work justice it must be remembered that against the increase in value, as shown above, only the expenditure at this hatchery from the years 1876 to 1881, inclusive, should be charged. In 1876 the first hatching was distributed. These fish would become marketable in six years, in 1882. Those hatched in 1877, in 1883, and so on, so that the return from the hatching of 1881 was due last year, and this is the best official statement we have regarding the condition of our salmon fisheries. By referring to the expenditure for the years 1876 to 1881 it will be seen that about \$2,500 per year is the average annual cost of this work, with an output averaging 1,500,000 fry per year. During these years there were planted in the rivers of this county about 200,000 fry for each year, or a total in the six years of 1,200,000 which, as per above calculation, cost \$2,000. There has then been an outlay of \$2,000 for which we have received a return of \$10,000, or \$5 for each \$1 expended.

"In this calculation, I am assuming that the whole of this increase is due to artificial culture. This assumption may be open to objection, and for my purpose I am willing to claim but one-half of this increase; still we have a return of \$2.50 for each \$1 invested; this would be equal to about 20 per cent. compound interest for the six years and should satisfy the most avaricious speculator.



"I feel that we would be justified in claiming the greater part of this increase as the result of fish breeding, which was the only special and determined effort made between the year 1876 and 1881 to increase or maintain the fisheries of the county. As far as I am aware, no mill dams were torn down; no obstructions of any consequence removed; the throwing of sawdust into the rivers was not prevented, and I think I am correct in saying no fish-ladders were built; in fact, during that period the conditions existed, which, if the opinion of almost every writer on salmon fisheries can be considered authority, were most unfavourable to the natural reproduction of salmon, and which had caused the gradual decline in that fishery in the past.

"While on this subject I will take the liberty of drawing your attention to the returns from another portion of this province, viz., that from the counties bordering on the Straits of Canso and Northumberland. It very probably is the fact that all the salmon frequenting that coast enter through the Straits of Canso, and in their passage along the shore in search of their native streams are liable to capture by the nets met with. The several rivers discharging their waters into these straits are certainly tributary to the salmon fishery of this coast, and any effort made on any one or more of these rivers would in its results be observable on this particular fishery. These rivers, unaided by any special effort and without receiving any assistance from artificial culture, appear to have been unable to sustain the drain upon them, and the statistics show that from these sources the fishery was not being maintained, but that, in sympathy with the whole coast a gradual decline was taking place. This decline had been continuous, with some slight fluctuations from 1870 to 1881 when it had reached its lowest stage, and had no assistance been rendered we have every reason to believe a still further decline would have taken place. Just at this stage the first effects of a well directed effort to assist and maintain this fishery were in the course of nature due, i.e., the first return from the young fry planted in east, west and middle rivers of Pictou County, and in River Philip, and Wallace River in Cumberland County, in the spring of 1876, and the next official return that of 1882, shows a marked increase in the aggregate catch of the four counties, being about 50,000 lbs. greater than that of 1881, and amounting to an increase in 1887 over 1882, of over 79,000 lbs. or 53 per cent. in five years. The money value of this increase, allowing the market price to be 20 cents per pound (and I have Inspector Roger's authority for this price), would be \$15,800. The number of young salmon artificially bred and placed in the above-named rivers during the period from 1876 to 1881, was in the aggregate about 1,500,000. This was effected at a cost of about \$2,500; consequently we have an expenditure by your Department of the above amount on a project introduced for the special purpose of increasing our salmon fisheries and from which there has been received from the above counties a return of \$15,800, or over \$6 for each \$1 expended; by allowing the reduction of 50 per cent. as I did in the calculations for Halifax County, we have still \$3 for the \$1 invested, a return more satisfactory than that from the last named county.

"In attempting to trace this increase back to some cause or origin, we find that very few, if any of the conditions unfavourable to the natural reproduction of salmon, and which the continuous decline in the catch clearly indicates to have existed on these rivers previous to 1881, had been ameliorated.

"Poaching in these rivers was practiced largely, notwithstanding the efforts of the fishery overseers and wardens to put a stop to it. In River Philip it was wholesale slaughter of all fish not secured for artificial breeding purposes, and no attempt was made to prevent the depositing of sawdust and mill rubbish in the streams. In addition to all these injurious agencies an unusual drain upon the resources of River Philip and West River was made for the purposes of this hatchery which amounted to an average of 1,000,000 ova per year. To this extent there was the natural production, upon which the salmon fishery of the straits depended curtailed.

"Notwithstanding all these detrimental influences the catch on this coast has increased 53 per cent. in five years. I have endeavored to show a cause for this and think fish culture is justly entitled to the credit of the effects. It must be noted that

the returns from which I have obtained these facts show only the catch taken during the lawful fishing season and to this must be added the large increase in the late fall run of fish entering our rivers and which can safely be put at 50 per cent.

"Inspector Rogers, in his report for 1887, shows this increase in the Wallace River to be from 800 to 1,000 salmon, and we can fairly infer that the increase in the other rivers has been correspondingly great."

"In examining the effects of this work upon the salmon fisheries of the whole Province of Nova Scotia it will be found that results equally favorable with those in the localities I have referred to have been obtained. By referring to the statistics furnished your Department it will be seen that the average catch per year for the five years from 1875 to 1879, was about 12½ per cent. less than the average for the preceding five years from 1870 to 1874 inclusive. The catch during those periods fluctuated to a considerable extent, but the tendency was downward over the whole period and continued in this direction until 1881 when the returns show a falling off as compared with 1870 of 515,000 pounds, or a decrease of 65 per cent. Considering the condition of this fishery in 1881 and noting its annual decline previous to this date, the conclusion would be reasonably come to, that the total exhaustion of this wealth was at that period but a question of time and that this fishery would have soon been a thing of the past. Fortunately, however, the results of artificial breeding instituted in 1876 were at hand, and in 1882 a most marked increase was obtained, being 300,000 pounds, and the continual increase from that date shows this not to have been the result of accident or the existence of more favorable natural conditions, but that of some well advised and determined effort towards the attainment of the desired object.

"As stated above, this increase amounted to in 1887 over 500,000 pounds, representing a money value of \$100,000, towards the production of which your Department expended on fish breeding from 1876 to 1881, a sum not exceeding \$16,000, or a return of over \$6 for each \$1 expended, allowing a reduction of 50 per cent. as before, we still have \$3 for the investment of \$1.

"In all the above calculations which have been made in reference to the condition of the salmon fisheries as compared with that of 1881, it will be noticed that credit only has been taken for the increase shown to have taken place in 1887 over 1881, and its money value pointed out. Now as the increase commenced in 1882 and continued with some fluctuations up to 1887, the increase of each year over the preceding one, should be taken into account and added to the profits derived from fish culture. Taking the average of years 1880 and 1881 when, as has been shown, this fishery had been reduced 60 per cent. from the catch of 1870, it would be only fair to claim that this was about the yearly value of the fishery then, and again assuming that this average would have been maintained up to 1887, the total catch for the six years from 1882 to 1887, inclusive, would have been 2,000,000 pounds, while our returns show it to have actually been over 4,000,000 pounds, or an aggregate increase of 2,000,000 pounds, representing an enhanced money value of \$400,000. Giving fish breeding credit for 50 per cent. of this increase, we have a gross return of \$200,000 for the expenditure of \$16,000."

"Reviewing the facts which have here been given, the conviction must prevail that some cause, other than nature's, has been instrumental in bringing about this very promising condition of the salmon fisheries in Nova Scotia.

#### THE NATURAL REPRODUCTION OF SALMON LESSENED FROM VARIOUS CAUSES.

As to the present condition of the rivers in this Province it will be borne out by all who are thoroughly acquainted with them, and have had opportunities for comparing their present with their past condition by saying that they do not offer any better facilities for the natural reproduction of salmon at this date than were found in 1870; the same gradual changes in the physical condition of the country are and have been taking place. Dams and other obstructions to the entrance of the breeding fish to the rivers are rather increasing than otherwise; poaching and slaughtering



of the mother fish while on the spawning grounds is still carried on to a large extent, and the nursing and feeding capacities of the rivers are being seriously injured by the wholesale deposition of sawdust in them. To these objectionable features must be added the more vigorous efforts put forth by the fishermen to capture these fish while on the coast; nets are becoming more numerous set, and of a form and description much more destructive than formerly used. The ready cash market found for the sale of these fish offers inducements for larger numbers to engage in this fishery, and as the catch continues to increase and become more remunerative, still greater efforts will be put forth to gather in these treasures from the sea. To maintain this fishery in its present condition and to continue the satisfactory increase of the past few years, more hatcheries will be necessary and the number of young salmon distributed should be at least 2,000,000 per year. The results would soon become apparent and the return would bear even more favorable proportion to the outlay than has been shown to exist at the present time. The nursing and feeding capacities of our rivers, while no doubt seriously impaired by the many detrimental influences brought to bear upon them, are still capable of furnishing food for many more young salmon than are hatched in them under the natural process. It perhaps will be unnecessary to attempt to show why the natural reproductive powers of our salmon are less now than formerly as it will be readily admitted by all intelligent minds that sawdust, mill-dams, mill rubbish and other obstructions, and the pollution of the spawning and feeding grounds in the rivers have been largely instrumental in bringing this about. The settlement of the country and the clearing away the timber and forests has had a tendency towards reducing the quantity, as well as increasing the temperature of the waters in most rivers; this again has produced a change in the migratory habits of the salmon, causing them to remain in the cool salt waters of the bays and harbors until late in the season, and only enter the streams when compelled to do so by the exigencies of nature. Having entered the river, being then heavy and sluggish, they in many cases are unable to surmount the obstructions met with and are prevented from reaching the upper portions of the streams where only are the proper spawning grounds found, consequently the greater portion of the ova is deposited in unnatural, and unsuitable beds, and is ultimately destroyed either by freshets or eaten up by eels, and other predaceous fish. The small number of young salmon that may hatch cannot reach the heads of the rivers where food abounds, owing to the obstructions referred to, and the result is almost total loss of the whole production. Now, by artificial process, the mother fish are caught in the estuaries and spawned and liberated again uninjured, the ova gathered from them are kept in safety in the hatcheries until hatched, and young fry when distributed are placed in the extreme upper parts of the rivers from whence, during the time of their growth to smolts, they work their way down to the sea, partaking of the food found throughout the whole length of the streams, and the intervening lakes. It may be truly said that the ova deposited by one mother fish at the head waters of a river, will have more effect in maintaining the stock belonging to that stream, than the product of ten or more salmon, whose ova are deposited at or near the mouth of the river. If the system of fish breeding was applied only to the enabling of the mother fish to reach the natural and proper spawning grounds at the head of the rivers, a wonderful effect would be produced. But how much more effective, and beneficial must this artificial process be, when the many safe-guards with it surrounds the embryos from the time the mother fish are taken until the young have attained the fry stage. The simple fact that well provided hatchery rooms remove the production of the mother fish from the destructive provisions of nature, which to be understood must be considered in all its bearings upon the young, from the period when first deposited by the parent fish, through all the different stages, until it becomes a fully developed fry and capable of taking care of itself, is probably the whole secret in the success which attends the industry of fish culture, which has been so zealously worked out in this country.

Before the settlement of the country, and while it was yet in a state of nature, each river contained a given supply of the different kinds of fish. That these preyed



upon one another was, no doubt, a provision of nature. The various kinds were given powers of reproduction and by the devouring of the young of one by the matured of another kind a natural equilibrium was maintained, and so this would have continued as long as a state of nature continued. But a change took place; as the country became settled and civilization advanced, then the equilibrium was disturbed to the injury of the better kinds.

In illustration of this, take the case of the salmon and trout *vs.* eel and perch; the early settler preferred a salmon or trout to an eel or perch, as an article of diet, consequently greater efforts were put forth to catch the former than the latter; as the population increased the demand for the better fish grew far faster than that for the inferior article and an unnatural drain was made upon the supplies of salmon and trout. The obstructing of the rivers by mill dams and other introductions of man rendered the reproductive powers of these fish less vigorous, while it did not so affect the eels and perch. In this way, while the better fish had decreased in numbers, the poorer have increased, so that at this time the destruction of the young of the salmon families by eels and perch is far in excess of the destruction of eels and other fish in the same water. It is a well known fact that eels and perch are becoming more numerous in our lakes and rivers than formerly, and, as they are not much sought after, they must continue to increase and ultimately all other fish will be destroyed by them; this is the history of the lakes in the older settled portions of the neighboring states, and must be repeated here unless some determined effort is made to restore our salmon and trout to their past strength. We have, then, at this time, the following conditions as regards salmon and trout and eels and perch. The reproductive powers of the salmon and trout are seriously impaired by the demands for these fish for food, while the reproductive powers of eels and perch, which are immensely greater, are increased by their having almost absolute possession of our lakes and rivers; the destructive powers of the young salmon (if it can be applied at all against eels or perch) is lessened in proportion to their reduced numbers, while the destructive powers of the eels and perch are becoming greater as their numbers increase. This, then, may be fairly stated as an unnatural condition of things as regards the salmon family and calls for extensive and vigorous action on the part of the Government, if it be the desire to maintain even the present supply of these valuable fish.

Sufficient evidence has already been afforded by the returns which have been quoted to prove the powerful influence which artificial fish breeding, even on the small scale now in operation in Nova Scotia, has brought to bear upon the salmon fisheries and should warrant the extension of those operations to the fullest degree.

In endeavoring to show to the Department of Fisheries the good effects of artificial culture upon the fisheries, I am responding to a demand upon the part of the public for some evidence of a pecuniary return for the expenditure incurred upon this work in the past, and I hope my feeble efforts to comply with their requests will convince them that satisfactory returns have already been received, and induce further studying of the statistics on their part before condemning a scheme which so far has hardly gone beyond an experiment.

#### EVIDENCE OF THE BENEFIT FROM MAGOG HATCHERY, QUEBEC.

"Regarding the quantity of fish in Lake Memphremagog and the effect which the hatchery at Magog has had upon their increase, the undersigned beg leave to say that we are old residents and have fished more or less of our time for many years in the waters of said lake. Previous to the erection of fish breeding establishments, there were no whitefish or bass in Lake Memphremagog. They are now found in large numbers and are rapidly increasing. There have always been lunge or salmon trout in this lake, consequently the evidence of increase is not so marked. We know that there are more salmon trout than formerly, and believe that the increase is due to artificial propagation and protection. We are also of the opinion that a greater appropriation should be made to pay for more guardians during the

close season, thereby rendering the protection more efficient, and resulting in showing a rapid increase of fish in this lake.

"The introduction of Georgian Bay salmon-trout has not effected the character of the so-called lunge, as they are both one and the same fish. Minnows and small fish which were plentiful for bait until the Magog hatchery commenced operations have almost disappeared, having, undoubtedly, become food for the salmon trout and bass which now exist here in great numbers.

N. A. BEACH, Fishery Overseer at  
Georgeville.

W. T. TALBOT.

L. F. WALSH.

H. M. QUINBY.

A. HAND.

E. J. TUCK.

R. B. HERIOT.

C. S. COPP, P.M.

M. P. BROWLEY.

R. L. AYER.

Wm. McGOWAN, jun., Customs  
Officer.

H. N. BIGALOW.

J. E. DAVIDSON.

B. A. BULLOCK.

GEORGE DIAMOND.

CHARLES ACHILLES.

W. M. PEASE, M.D.

JOHN TAYLOR.

C. H. MCGOWAN.

JOSEPH HEWES.

M. C. ACHILLES.

C. O. BUSBANK.

A. G. BOLLOFF.

STEPHEN POTVIN.

DANIEL E. PETERS, Light House  
Keeper.

E. A. DONEGAN.

WILLIAM JAMIESON.

MAGOG, 1888.

#### BENEFITS FROM FRASER RIVER HATCHERY, B. C.

"THOMAS MOWAT, Esq.,

"Inspector of Fisheries, B. C.

"QUAMICHAN, B. C., 15th December, 1888.

"DEAR SIR,—I have much pleasure in informing you that quite a number of saw-quais have been seen in the Cowichan this season. The Indians reported having killed several dozen, and the licensed seine men said they met with several dozens in their nets.

"The fish the Indians caught they brought to me as a curiosity, as they had never seen the saw-quai in the river before. What I saw would be between four and six pounds weight.

"I do not know what saw-quai ought to average, but I am satisfied these are some of the returns from the first fry put in this river.

"I have the honor to be, Sir,

"Your obedient servant,

"W. H. LOMAS,

"Fishery Guardian.

On making enquiry of Guardian York of the Nanaimo River, I received the following letter:—

"THOMAS MOWAT, Esq.,

"Inspector of Fisheries, B. C.

"NANAIMO, B. C., 17th December, 1888.

"SIR,—Your letter of the 11th instant received and contents noted. I beg to state that I have made enquiry relative to the fry put in this river.

"The Indians say they have taken a number of saw-quoi salmon half grown, but are afraid to admit such, thinking they have done wrong by catching them. Several of the Indians saw the saw-quais this season and are satisfied they are the result of what you planted. They state there will be plenty next year.

"I am, Sir,

"Your obedient servant,

CHAS. YORK,

"Fishery Guardian.



Mr. Mowat also adds: I take the following from the *Weekly Astorian* of Oregon, dated July the 28th, simply to show the success of fish culture on this coast, where hatcheries have been in operation a sufficient length of time to prove results. The Rogue River is small, its average pack being about 8,000 cases per season. It is, therefore, natural to suppose that the output of fry would be more noticeable there than in the Fraser River which yields from 90,000 to 150,000 cases per year.

"State Fish Commissioner E. P. Thompson has returned from a three weeks' trip along the Rogue, Coquille, Umpqua and Sinslow Rivers and Coose Bay. He tells the *Oregonian* that all the cannery men in those waters are making preparations to operate their canneries to full capacity in anticipation of a good run. The cannery men and fishermen operating on all the rivers except Rogue want hatcheries.

"Rogue River has a hatchery which has been operated off and on since 1877, and this artificial propagation is accountable for the three fold increase in the run. Rogue River is the only stream on the Pacific coast which has been fished continuously for a number of years and can show an increased run. I think we will be able to furnish each of the streams with 500,000 eggs annually, which will be taken from the Sacramento River. It will require ten days to ship the eggs from Sacramento to either of the rivers, and upon arrival there the fishermen and cannery men will take care of them, and turn the young fish in the river when the hatching is complete. Sacramento salmon rank next to Columbia River salmon and are superior to the fall fish of Coose Bay, or Rogue, Coquille, Umpqua and Sinslow Rivers. All want hatcheries, but if we can supply them with eggs right along hatcheries will not be necessary. It would cost about \$2,500 per year to operate a small hatchery on each stream."—*Weekly Astorian*, 22nd December, 1888.

E. P. Thompson, one of the Fish Commissioners, of Oregon, speaking of the prospective scarcity of salmon says: "Such cannot be the case so long as the present success in hatching them continues. The Clackamas will within a few months turn out 6,000,000 young salmon. At R. D. Hume's hatchery, at Ellensburg, on the Rogue River, there are about 400 salmon in the basin. These will yield enough eggs to hatch out at least 1,500,000 young salmon. The eggs are placed in the hatching troughs, at the rate of from 80,000 to 100,000 per day. This hatchery is owned by Mr. Hume, but the State appropriates \$2,000 to help him in his good work."

In the report of the Oregon Fish Commission, for 1888 the following statement is made:—

"We will give a short history of the fishing industry on Rogue River to show what artificial propagation will do towards keeping up and even increasing the supply of fish in a stream."

"In the summer of 1876, Mr. R. D. Hume, prospected this river to some extent for salmon, and in the spring of 1887 located here and built a cannery at Ellensburg, about one mile above the mouth of the river. He packed during the spring run of that year 3,500 cases and at this time the supply of fish was abundant in all our streams.

"During the summer he erected a small hatchery in connection with the cannery and secured about 100,000 salmon eggs; but, being an amateur in the business, did not have the best of success in hatching them. However, he succeeded in turning out about 50,000 young salmon. He has continued with one or two exceptions, to operate the hatchery each year, putting out annually from 50,000 to 150,000 young fish and has a fair prospect of putting out 1,500,000 this year. In consequence his pack has increased from year to year, and for the year 1888 his spring pack amounted to nearly 12,000 cases. You will plainly see that the increase has been quite large on this stream during the past ten years, while on all the other streams of the coast the salmon have decreased largely in numbers during the same period."

"At the last session of the Legislature the appropriation of \$2,000 was made for the enlargement and support of the Rogue River hatchery. The money was spent economically and well under the supervision of Mr. Hume, in constructing another pond, in connection with the one already there. This was done by digging and blasting out a cavity 40 by 60 feet and 9 feet deep. After the earth and rock were



removed the sides and bottom were lined with a solid wall and floor of concrete twelve inches thick; the pond was then covered with a substantial wooden building. This work cost \$1,000 more than the sum appropriated."

## EVIDENCES OF THE INCREASE OF FISH BY MEANS OF THE SANDWICH HATCHERY, ONT.

The following letters from practical fishermen throughout the country, have been given to Mr. Parker as strong evidence of the fact that the great increase of the whitefish now taken, is mainly due to the operations at the Sandwich Hatchery:—

Remi Laframboise, River Canard, a fisherman of twenty-one years' experience, in a letter says:—"During my first years, fish were plentiful but were declining rapidly until the establishment of your hatchery. It is generally admitted by fishermen of experience that the hatchery has greatly contributed to our success, as for instance, Lake St. Clair was considered heretofore a poor place, but this year was fair."

Capt. Joseph Allen, Petite Côte, says:—"I have been on this (Detroit) River fishing for the last fifteen years, and as far as I am concerned, can say that if it wasn't for the fish hatchery we would be obliged to stop all fishing here, but after the good catch this season, I give your hatchery credit for the increase. Take Lake St. Clair, where we never catch but a few whitefish, the catch was extra good, as was also Detroit River this season."

C. W. Gauthier, writing from Detroit, Mich., says:—"I take pleasure in informing you that my catch of whitefish on the Detroit River this season, will amount to one hundred per cent. more than last year and that from information I have obtained from the largest fish dealers in Toledo and Sandusky, on the south side of Lake Erie, the catch of whitefish is quite one third larger than last year. This is without doubt a gain caused by the young fish hatched at your fish breeding establishment at Sandwich, and I would like to see it enlarged, as the result would be an increased benefit to the fishermen on Lake Erie and Detroit River."

Mr. Payne, Port Stanley, says:—"When I commenced fishing here some nine years ago it was very seldom we caught any yellow pickerel (a very valuable fish) and when we did get any they were generally very large, in fact many of them too large for marketable fish. Now they get the same kind of fish right along and of a smaller size and a far better marketable fish and I can account for it in no other way than the planting of the fish here. The same may be said of whitefish, they are now smaller fish but more plentiful. I also can say that the fish are more numerous."

E. B. Paxton, writing from Fighting Island, says:—"I have been in the fish trade for some years; have noticed the sudden decrease of fish from 1874 to 1884. Since 1884 they have steadily increased year by year, so that now we on Detroit River and Lake Erie are catching fairly."

Jos. Boismier, fishery overseer, says:—"I take pleasure in noticing the large increase in whitefish this year. The increase is about from thirty to thirty-five per cent. larger than last year. By the report of the fishermen they are convinced that the hatchery is the cause of the great increase. Also, the catch of pickerel is greatly increased all owing to the hatchery. I think it would be a great benefit to the Government to enlarge the hatchery."

## WHITEFISH INDUSTRY.

In connection with the very satisfactory evidences which have just been related regarding the increased catches of whitefish in the Detroit River and Lake Erie, resulting from the operations of fish breeding at the Sandwich Hatchery here I also add the views expressed by portions of the press and inhabitants of the adjoining States of the Union, on the wonderful increase of whitefish taken by American fishermen, which is attributed to the output of young whitefish from the fish-breeding

establishments. Whilst their accounts are most gratifying, it must, nevertheless, be borne in mind that a very great proportion of this increase must be credited to the work carried on at the Sandwich Hatchery, on the Canadian side of the Detroit River, as the Sandwich whitefish nursery was the first of the kind established in America, and was actively engaged in putting out whitefish fry by the million in the Detroit River and Lake Erie, some time prior to the erection of any whitefish hatchery in the United States; and it would appear from the published reports of the United States Fish Commission that, up to the year 1883, the one Canadian establishment at Sandwich had actually planted in the Detroit River and Lake Erie, upwards of *sixteen millions and a-half more fry* more than were put out of the United States and Ohio and Michigan States Fish Commission nurseries all combined; and that in addition there have been put out from this Canadian hatchery into the above named waters annually, since 1883, whitefish fry numbering in the gross upwards of 220,000,000. It is, therefore, only fair to conclude that a large share of the increase in the catch of whitefish in the Detroit River and Lake Erie, must be credited to the large output of young whitefish bred in the Sandwich nursery.

#### RESULTS OF HATCHING WHITEFISH.

(From "*Forest and Stream*." )

"Whitefish were reported to be so plentiful in Lake Erie last year that the fishermen scarcely knew what to do with them. Seven hundred and fifty tons (1,500,000 pounds) were frozen for shipments by a single firm in Huron, Ohio. Sandusky is fast becoming one of the great fresh fish markets of the world. Mr. E. D. Carter, one of the most prominent of fish dealers in Erie, attributes the present prosperity of the whitefish industry to *artificial propagation*. Some seasons ago fishing for whitefish had become so unprofitable that he, with others, concluded to abandon it entirely. In 1886 a slight improvement was noticed, but now the catch is double what it was in 1886. This result, Mr. Carter states, is *due to the work of the hatcheries*, for the fish are almost without exception young, weighing about two pounds. The increased catch, and the unmistakable character of the fish is admitted also by many fishermen of experience. And the establishments at Erie, as well as others in Michigan and Ohio now receive the credit which fairly belongs to them. The prices of fish now are about two-thirds of what they were in 1885. The catch of whitefish at Erie in 1888 was 2,200,000 pounds, an increase of a third over that of 1887."

#### IMMENSE CATCH LAST SEASON, THE RESULT OF ARTIFICIAL PROPAGATION.

DETROIT, 17th October, 1888.—Mr. George D. Mussey, Secretary of the Michigan Fish Commission, has just returned from a trip along the American shores of Lake Erie. The trip was ordered by the Commission for the purpose of finding out the size of the catch of whitefish in the lakes. Mr. Mussey says: "The dealers told me it was the largest catch they had taken for fifteen years. The catch is due, according to them, almost entirely to *State propagation*, and planting of the fish. The catch from Lake Erie is the largest taken from any lake in the United States, and we say it is so, because there are more fish planted there. Pennsylvania plants there from her hatchery at Erie, Ohio from Sandusky, the United States from Northville hatchery, and Michigan from the Detroit hatchery. To show the value of propagation by the hatcheries, a gentleman of Erie gave me a few figures: The fishing industry is valued at \$400,000 a year in that part, and one-fourth of that is whitefish. About \$15,000 is expended on whitefish by the Fish Commission of Pennsylvania, for the whole State (three hatcheries), and they say the whole industry is due to artificial propagation, or at an expenditure of \$7,000, they erect a business of *one hundred thousand dollars a year*."

#### FROM PENNSYLVANIA STATE COMMISSION ADDRESS TO THE HOUSE OF REPRESENTATIVES.

"It is the intention of the Commission to continue the stocking of the rivers yearly with shad and game fish; but, to do this, fish protection must go hand in hand with fish propagation, and for this we must have suitable laws.



"The method of fish production is no longer an experiment, but a well established fact. The efforts of the Commission in restocking Lake Erie with whitefish have resulted in the largest catch known there in twenty years, and the price of whitefish has been reduced 30 per cent. The same result will be seen in the Delaware with good legislation and proper protection. The Pennsylvania Fish Commission has been greatly encouraged by the growth of public sentiment in its favor. It is an indication that the public recognizes the wisdom existing to protect the propagation of good fishes, which not only aid the community now, but will also secure an endless source of benefit in the future."

## OPINIONS OF AUTHORITIES ON FISH CULTURE IN THE UNITED STATES

The following extracts are taken from addresses delivered by Prof. G. Browne Goode, M.A., of the United States Fish Commission:—

"In 1871 the United States Fish Commission was established. Arrangements were at once made for a thorough scientific investigation of the fisheries, and a little later the work of artificial propagation was begun. The operations of this Commission have increased from year to year, and much has been done in extending the range of important food-fish, and in restocking depleted waters.

"Up to 1878 the work of the Commission was confined wholly to fresh water and anadromous species. In this year, however, a station was established for the propagation of marine fishes, and cod, herring and haddock were successfully hatched.

"Besides the improvement of apparatus, radical changes have been made in the methods of fish culture. The most important of these is the building of movable floating hatcheries in the form of barges and steamers by the United States Fish Commission. By means of these, different spawning grounds may be visited during the same season, and the result of the work enormously increased with a comparatively small increase in its cost. The application of steam for pumping the water and for working the apparatus is also of great value. Equally important with these is the improvement in the method of transportation. Formerly the young fish were carried in small quantities in the baggage cars of the passenger trains, but refrigerator cars built expressly for this purpose are now almost exclusively used. Trained experts are placed in charge of these cars, and immense numbers of fish are now distributed with small loss, and at a great reduction in cost as compared with the old method.

"The salmon fishery of the Pacific is an industry peculiar in its methods and extent. The quinnat or king salmon, as often called the California salmon, is the principal object of capture, though other related species are also taken. Though the capture is enormous, it has been demonstrated that the supply can be easily kept up by a small outlay in artificial culture.

"The principal activity of the Fish Commission has been directed to the wholesale replenishment of our depleted waters. The success of fish culture is well recognized in the United States.

"In connection with the work of fish culture, much attention has been paid to embryology. The breeding times and habits of nearly all the fishes have been studied, and their relations to water temperature. The embryological history of a number of species, such as the cod, shad, alewife, salmon, smelt, Spanish mackerel, striped bass, white perch, the silver gars, the clam and the oyster have been obtained under the auspices of the Commission.

"The preservation of the oyster beds is a matter of vital importance to the United States, for oyster fishing unsupported by oyster culture, will, within a short period of time destroy the employment of tens of thousands, and the cheap and favorite food of tens of millions of our people."

"Fishes in ponds, lakes, or streams, are quickly exterminated unless the young fish are protected and the spawning season is undisturbed, and wholesale methods of capture are prohibited.



"A river may quickly be emptied of its anadromous fishes, salmon, shad, and alewives, by over fishing in the spawning season, as well as by dams which cut off the fish from spawning grounds. Examples of this may be found in dozens of American rivers.

"In the same way sea fish approaching the coasts to spawn upon the shoals, or in the bays, may be embarrassed, and the numbers of each school decimated, particularly if, as in the case of the herring, the eggs are adhesive and heavy.

"Sea fishes spawning in the estuaries are affected by wholesale capture with stake nets, much in the same manner, though in a less degree, than salmon in the rivers.

"Almost any piece of water, be it a bay, or a sound, or be it the covering of a ledge or shoal at sea, may be over-fished to such a degree that fishing becomes unprofitable, especially if fishing be carried on in the spawning season."

"The proper function of public fish culture is the stocking of the public waters with fish in which no individual can claim the right of property. This is being done in our rivers with salmon, shad, and alewives, and in our lakes with whitefish.

"Public fish culture is only useful when conducted upon a gigantic scale, its statistical tables must be footed up in tens of millions. To count young fish by the thousand is the task of the private propagator.

"The use of steamships and steam machinery, the construction of refrigerating cars for the transportation of fish and fish eggs, and the maintenance of permanent hatchery stations in the different parts of the continent, are forms of activity only attainable by Government aid. It has been demonstrated beyond possibility of challenge that our great fisheries, producing millions of pounds of alewives, shad, salmon, besides bass, sturgeon and smelt, and worth, at first hand, millions upon millions of dollars, are entirely under the control of the fish culturist to sustain or destroy, and capable of immense extension.

"The same is true of (*coregonus*) whitefish fisheries of the great lakes, and there is every reason to believe, from experiments in part completed, that the dominion of fish culture may be extended in like manner for certain of the great sea productions, such as cod, haddock, herring, mackerel and Spanish mackerel fisheries. The immense influence upon the sea fisheries of the maintenance of the abundance of anadromous fish in the rivers has already been indicated.

"The hatchery on the McLeod River, in California, was established in 1872. Large quantities of the eggs of the California salmon are collected there annually. About 15,000,000 have been hatched at this station, and the young fish placed in the McLeod, and other tributaries of the Sacramento River. So great have been the benefits of this restocking of the Sacramento that the statistics of the annual salmon catch of the river has increased 5,000,000 pounds during the last few years.

"The propagation work has increased from year to year, as may be seen by the constant increase in the amount of the annual appropriations. A review of the results of the labors of the Commission in increasing the food supply of the country may be found in the annual reports. The rude appliances of fish culture in use years ago have given way to scientifically devised apparatus, by which millions of eggs are hatched where thousands were, and the demonstration of the possibility of stocking rivers and lakes to any desired extent has been greatly strengthened. This work is now carried on with machinery for propagation on a gigantic scale by the aid of steam.

"The work of the Commission in fish culture has been that of stimulation and co-operation. The efforts of individuals have been encouraged in every way; indeed there is hardly a fish culturist in the United States who is not, or has not been attached to its staff."

At one of the fishery conferences held in England, Prof. Browne Goode then spoke with reference to fish culture in America:

"He desired to say a few words which were, perhaps, invited by the closing sentences of the address concerning what America had been doing in the way of salmon culture. He was led to do that by the fact that certain documents had been

distributed from Canada, which had a tendency to depreciate what had been done in fish culture, not only in Europe, but in the United States. It has been said that fish culture was only an experiment, and had not been attended with commercial success; he, however, wished to say that it was in no sense an experiment, but that in the United States and in Canada it had been a decided success, and was so recognized by everyone. It was not likely that the American Congress or Canadian Government would, for a period of twelve years, keep on making annual appropriations for fish culture if they were not satisfied that it was not only a success from a scientific standpoint, but a success from a commercial point of view. In the United States the general government had appropriated up to 1883 more than a \$1,000,000, and the individual states a sum almost as great. Up to 1798 large numbers of salmon were caught in the Connecticut River, but until 1870 the fish disappeared entirely from the river; and until 1875 no salmon whatever were seen in the river. In 1875, however, the salmon began to appear and this was the direct result of the planting of a large number of young fry in that river some years previously. Then again, in the case of the Sacramento River in California, where about two million young fish were planted yearly, the catch had increased in five years from five million pounds to fifteen million pounds, and in 1881 there were more fish than could be utilized by all the canning establishments on the river. He would not proceed with the multiplication of examples, but would refer to the fact that the fish in the Detroit River, where the United States and Canada had established hatcheries, had been increased, and the supply immensely improved \* \* \* \* \* Shad, which four or five years before were selling for \$1.00 a pair, and beyond the reach of the poor people, became so cheap and common that they could be bought for 25 cents a pair, which was entirely the result of fish culture.

"Prof. Baird was not an enthusiast, but a man possessing the widest general knowledge of natural laws, whose sound judgment and experience had enabled him to take up the work of fish culture, and carry it on, on an immense scale in the United States. People were sometimes dissatisfied because fish were sometimes planted in streams, and nothing was heard of them afterwards; but it was the theory of the Commission and of the Government that it was a proper thing to make experiments, and if they happened to be unsuccessful there was so much ground eliminated over which it was unnecessary to go again. He thought the experiments which had been successful, ought to be allowed to balance those which had not. Experiments in fish culture in Europe, especially in Holland and Germany, had yielded exceedingly promising results \* \* \* \* \*

"It seemed to him that the Canadian Department of Marine and Fisheries was one of the most valuable organizations in the world, and that their system of gathering statistics was one which other countries ought to study with a great deal of care. In the United States they had nothing of the kind \* \* \* \* \* Another matter which he looked upon with admiration was the great progress Canada had made in fish culture during the past number of years, and more especially under the direction of Mr. Wilmot, who was one of the pioneers of fish culture in America."

#### CONCLUSION.

In concluding this report upon fish cultural operations as carried on during the past year under the authority of your Department of Fisheries, in the Government of Canada, it is gratifying for me as your superintendent of the work, to state that the several hatchery establishments with their apparatus, and general appliances are in a good working condition; that the out-put of young fish from them during the past season has been very large, and their distribution in the many waters of the country has been performed with safety and satisfaction; and that the present crop of eggs now undergoing incubation in the several hatcheries present a healthy and vigorous appearance. This state of affairs, together with the numerous evidences of success which have been voluntarily given by many parties engaged in the fishing

Industry of the country, whose certificates will be found inserted in this report—all indicate that fish culture as pursued in Canada is active, progressive and successful up to the limit which it has reached. Yet I am fully convinced the enterprise has not yet become sufficiently expanded, nor is it placed upon such a broad and satisfactory basis, as its importance demands, or it is destined to perform in replenishing the many waters of the country which have become so greatly exhausted by many years of improvidence. I, therefore, fully endorse the sentiments of the leading fish culturists of the United States, and the policy of that country when it is said that: "Public fish culture is most useful when conducted upon a gigantic scale—its statistical tables must be footed up by tens of millions. To count young fish by the thousand is the task of the private propagator; and that the prosperity and wealth of the fisheries of the present day, are entirely under the control of the fish culturist to sustain, or to destroy, and capable of immense extension."

The reports of the several officers in charge of hatcheries will be found appended hereto.

This report is respectfully submitted by

SAMUEL WILMOT,

*Superintendent of Fish Culture for the Dominion of Canada.*



# FISH CULTURE,

## 1888.

### APPENDICES.

#### REPORTS FROM THE SEVERAL OFFICERS IN CHARGE OF FISH-BREEDING ESTABLISHMENTS IN THE SEVERAL PROVINCES OF CANADA FOR 1888.

##### 1.—FRASER RIVER HATCHERY.

###### PROVINCE OF BRITISH COLUMBIA.

*Report of the Officer in Charge of the Fraser River Hatchery for 1888.*

I have the honor to submit my fifth annual report for this hatchery together with a statement of the distribution of fry and collection of ova during 1888.

From the quantity of salmon eggs laid in the hatchery during the fall of 1887, the following number of semi-hatched ova and fry of the salmon (Chouicha) and (Nerka) were distributed in the several rivers and lakes of Vancouver's Island and the mainland as follows:—

###### *Saw-quai (Nerka.)*

Cowichan River, Nov. 28th, 1887.....	800,000
Nanaimo River, Dec. 20th do .....	700,000
Pitt Lake do 26th do .....	500,000
do March 3rd, 1888.....	700,000
Sumos River do 17th do .....	385,000
Stare River, April 4th, 1888.....	1,170,000
Pitt Lake do 6th do .....	575,000
Sumas Rapids, April 10th, 1888.....	420,000
Couquitlan River, April 13th, 1888.....	125,000
Total.....	<u>5,370,000</u>

###### *Quinnat (Chouicha.)*

Pitt Lake, March 3rd, 1888.....	79,000
Sumas Rapids, March 17th, 1888.....	88,000
Stare River, April 4th, 1888.....	28,000
Pitt Lake, do 6th, do .....	88,000
Sumas Rapids, April 10th, 1888.....	80,000
Couquitlan River, April 13th, 1888.....	74,000
Total.....	<u>437 000</u>

*Grand total distributed 1888.*

Saw-quai species (Nerka).....	5,370,000
Quinnat do (Chouicha).....	437,000
Grand total.....	<u>5,807,000</u>

The above figures show that the rate of mortality with the eggs during the hatching season of 1888, was large, which is accounted for principally by the necessary employment of inexperienced men, who had to be engaged to manipulate the fish and handle the ova.

By this reason many of the eggs were improperly taken from the fish in a premature state, and were not susceptible to impregnation. The enormous quantity of salmon which it takes to furnish 10,000,000 eggs, cannot be handled properly by only two or three experienced men, as we found out when the eggs began to hatch.

Lack of facility in conveying the ova from the spawning grounds to the hatchery, was another drawback, as the steamer which ran on the route often passed without calling, leaving a shipment of eggs to be conveyed fifty miles by canoes.

As the capacity of the house was over estimated, the large number of eggs crowded the troughs to such an extent, that it was almost impossible to handle them on the trays, and we were unable to get a further supply of hatching baskets during the early part of the season.

But taking all things into consideration with the small staff we had in the hatchery during the early part of the season, the output of fry is fully as large as I expected.

There has been turned out from the hatchery, since it commenced operations, up to the present date, the following number of fry:—

The year 1885.....	1,800,000
do 1886.....	2,625,000
do 1887.....	4,414,000
do 1888.....	5,807,000

Grand total..... 14,646,000

As shown by the table in my last year's report, the salmon run on the Fraser River again fluctuated, and there was one of the biennial poor runs, but not worse than any of the former off years, for the canneries on the Fraser averaged 6,384 cases each.

Owing to the unexceptional good run in 1887, they expected the same results again this season, and made preparations accordingly; but were, however, disappointed.

In keeping with my prediction in last year's report, I am strongly of the opinion that the influence of the hatchery has been beneficially felt on the Fraser River. From the careful examination instituted last season in the headquarters of the Thompson, Shuswap, Nicola, Kamloops, Okanagan, Stuarts and many other streams where the saw-quai salmon spawn, it is clearly shown by the officer who made the examination, that very few salmon were seen; while on the Harrison River and all its tributaries, such as the Morris Creek, Chaholis Creek, Silver Creek, Lillooet River and other branches, I am informed by reliable authority that the saw-quai salmon were so plentiful they could be pulled out of the water in places with a hooked stick, and after the spawning season were found dead along the shores in immense quantities.

As the ova were taken from the fish caught on the Harrison River, and the majority of the fry returned to that stream, many of the cannery men, fishermen and others, agree with me that the influx of salmon there, was due to the artificial stocking from this hatchery. It will be noticed in former reports that saw-quai salmon fry have been turned in the Cowichan and Nanaimo Rivers, in Vancouver's

Island, where they were not known to exist. In making enquiry from the Fishery Guardian in the Cowichan River relative to the fry planted there, I have received the following letters:—

(See General Report under "practical results from fish-breeding." page 20.)

*Collection of Ova in 1888.*

We have laid in the hatchery this season 4,921,000 eggs, which have been more successful thus far than in any previous season. I am of opinion we will turn out fully 90 per cent. of fry from the number laid in. The men employed last season naturally saw their mistakes, and were much more careful this season, but it is impossible for the men to thoroughly understand the business until they have some length of practical experience. Had the freshets not kept so high all through the spawning season, we would have captured a much larger number of fish and consequently secured a larger number of eggs; but anyone acquainted with the sudden rising and falling of the various mountain streams in the province (especially where our work is carried on) will readily understand the difficulties to be contended with.

We were not troubled with fungoid growth on the eggs this season, as they were all laid in the hatching baskets immediately after arriving from the spawning grounds.

Appended is the caretaker's report of operations on the Harrison spawning ground this season, which explains itself.

In last year's report it was mentioned that shad had been captured along the British Columbia coast at several points on Vancouver's Island, and in the Straits, but had not reached the Fraser. It is now gratifying to state that shad have been caught in the salmon nets in the Fraser River this season, these were no doubt the offspring of those planted by the United States Fish Commission, a few years ago, and they are now seeking more suitable spawning grounds in the Lower Fraser River; which it is believed is a better stream than that selected for the first fry turned in the Sacramento River.

I beg to again renew my suggestion that the Department have planted here a few hundred thousand shad, as the limited quantity which made their appearance last season may take years to stock this river; and during this lapse of time the people of the Province will derive no direct benefit, whereas if a few hundred thousand were planted this coming season, the results would be felt in the course of three or four years.

Whitefish have been asked for by the people of the interior, to stock the large lakes, and it is the opinion, if these fish are once introduced in these waters, the increase would be rapid, and a large trade with the people of the interior would spring up, as the growing towns in Oregon, Washington Territory, and British Columbia would consume large quantities of them.

The only repairs this hatchery will require for another season is a new flume to lead the water from the dam to the retaining tank in the building, the old one has been in use for six years and is becoming unsafe. New nets, and boats, and baskets were supplied last season. The ground was enclosed with a wire fence and the building is in thorough repair.

THOMAS MOWAT,

*Officer in charge of Hatchery, Fraser River, B. C.*

REPORT OF THE CARETAKER OF THE FRASER RIVER HATCHERY.

I herewith submit the following report of the work done at the Fraser River hatchery for the fall of 1888.

As you are aware I did not get down from the interior where I was employed as fishery guardian until the latter part of September. Upon arriving at the spawn-



ing grounds on the Harrison I found the work well under way, the men had the trap set, and the gates all repaired and put down. I find, by referring to the notes of A. E. Pettindrigh, who had charge in my absence, that the first eggs were taken on the 18th September, and that about 350 saw-quai salmon were in the trap. I also found the water had been very high when the men first went to the Harrison, as the pen had to be covered to prevent the fish from jumping out. Owing to the continuance of high water the whole season, it was difficult to proceed with the work, but the fish were very plentiful. On the 30th of September I started men fishing for spring or quinnat salmon. I did not let them fish sooner as it is difficult to keep the fish alive on account of the fungoid growth that attacks their gills, or wherever the mesh of the net takes the scales off. I found the quinnat salmon very plentiful on the bars; the first night's fishing we caught fifty-three fish in three short drifts which fitted the boxes, and they had to be emptied in the pens the next morning. On the 1st October I took a shipment of 404,000 eggs to the hatchery where I left one man in charge; on my return I found the water falling fast, and fish very plentiful below the trap, but very few going in, as they did not appear to be ready to spawn. On the 11th October the first quinnat ova were taken and I fully expected to lay in a million of these eggs but only managed to get 497,000, as we experienced great difficulty in keeping the fish in pens. I also expected to lay in about six millions of the sawquai ova this fall, but owing to the heavy rains and high water was prevented, as the trap we caught our sawquai salmon in was carried away with the freshet, and we could not replace it again before the fish had all gone up the creek, and once there we could do nothing with them. But I am pleased to state that the eggs that are now in the hatchery are doing better than in any previous year, and if no accident occurs, we will turn out nearly 90 per cent. of the whole number laid in. We have now about two million of young fish hatched out; they are in fine condition and will be ready to turn out in a few weeks.

The number of fish caught for spawning purposes was 4,684, but of this number 3,010 were males which leaves 1,674 females for stripping and a number of these were partly spawned before they were caught. The number of eggs laid in the hatchery this season was 4,921,000 so the fish scarcely averaged 4,000 eggs each this year. This is the reason so many fish have to be handled to get the required number of ova and necessitates so much work.

The first eggs were taken on the 18th September and the last on the 5th of November, making the time a little longer than in previous seasons owing to the continuous high freshets in those creeks.

I also experienced great difficulty in making connection with the river steamer, sometimes it would call for us but oftentimes we had to take the eggs down to Chil-liwack in canoes which caused a great deal of inconvenience as it would take two men a whole day to make the trip.

I would recommend that a new flume be put in the hatchery the coming summer as the present one is getting leaky and I doubt if it would be safe for another season if the flow of the water was to stop at this season of the year the loss of fish would be very heavy. The hatchery otherwise is in good condition and will need no other repairs this season. The hatchery trough, trays and baskets will require varnishing after the fish are put out as was done in former years.

MAX. M. MOWAT,

*Caretaker F. R. Hatchery, B.C.*

NEW WESTMINSTER, B.C., 31st December, 1888.

## 2.—SYDNEY HATCHERY.

### PROVINCE OF NOVA SCOTIA.

*Report of the Officer in Charge of the Sydney Hatchery for 1888.*

I have the honor to submit herewith my annual report upon the work done at this hatchery during the past year.

#### *Distribution of Fry.*

As stated in a former report, I laid down in the hatching troughs 1,780,000 ova from which 1,559,000 fry were hatched and distributed in the following streams, viz. :—

Margaree River (Inverness Co.).....	150,000
Sydney do (Cape Breton Co.).....	250,000
Ball's Creek do .....	100,000
Trout Brook do .....	100,000
Black Brook do .....	50,000
Grand Lake do .....	50,000
Estrasonia do .....	50,000
Salmon River do .....	100,000
Georges River do .....	50,000
McLean's Brook do .....	50,000
Benecadia River do .....	50,000
Big Pond and Rottle's Lake (Inverness Co.) .....	50,000
Middle River (Victoria Co.).....	150,000
Baddeck River do .....	100,000
Clyburn's Brook do .....	50,000
Grand River (Richmond Co.).....	50,000
Lear River do .....	50,000
Hatchery Brook (Cape Breton Co.).....	9,000
<b>Total.....</b>	<b>1,559,000</b>

All these were distributed in the best possible condition, every stream receiving its complement without accident or mishap worthy of mention.

#### *Collecting Parent Salmon and Egg.*

This fall I succeeded in securing 554 parent salmon. These, I am pleased to say, were caught and kept in good condition at the fishing stations till they were ready to spawn. There was one exception, I refer to the Lower Middle River and I would recommend that this station be discontinued because the expense is too great for the yield and the man employed there is not a suitable person for work of this kind.

The following table shows the number of salmon caught and the streams in which they were taken :—

Rivers.	Males.	Females.	Total.	No. of Ova.
Margaree River.....	44	132	176	928,000
Middle do .....	50	160	210	992,000
Lower Middle River.....	25	30	55	96,000
Sydney River.....	14	65	79	566,000
Salmon do .....	20	14	34	96,000
<b>Totals .....</b>	<b>153</b>	<b>401</b>	<b>554</b>	<b>2,678,000</b>

The ova are at present in a most healthy condition and promise a larger yield than usual.

#### *Repairs to Hatchery.*

No repairs were done to the hatchery or grounds this year except some patching on the floor of the hatching room. I may here add that this floor must be thoroughly repaired next season, the old one must be taken out and a new one put in. A new fence was built along the water line 250 feet in length; this, with all the other fencing and outhouses, were whitewashed. A new scow was built and it works well.

The outside of the main building was not painted as suggested in my last report. It is in a deplorable condition and should be attended to as soon as possible.

#### *Increase of Salmon.*

Indications of improvement in the salmon fishing of this island are very encouraging. So far very little can be traced directly to the operations of this hatchery; still I am satisfied, and so are all those who take an interest in the island fishery, that this hatchery is doing its work satisfactorily. I am not in a position just now to compare the coast fishery of this season with that of other seasons, but I have been informed on good authority that this season's fishing compares favorably with other years and in many cases better than any of the past five years. The Margaree River was well stocked with salmon during the fly fishing season and sportsmen tell me that this season was ahead of any of the ten years previous. Owing to continual freshets the fishermen on this river were unable to catch any for the hatchery, although the river was literally teeming with salmon during the months of September and October.

The Middle River was also well supplied, the catch there being nearly double that of any previous year.

The same may be said of all the other rivers, showing that there is an increase.

C. A. FARQUHARSON;  
*Officer in Charge, Sydney Hatchery.*

### 3.—BEDFORD HATCHERY.

#### PROVINCE OF NOVA SCOTIA.

#### *Report of the Officer in Charge of the Bedford Hatchery for 1888.*

I have the honor herewith to submit my report upon the operations at this hatchery during the past year.

The total number of eggs obtained from the rivers of this Province and laid down in the hatching troughs of this establishment last autumn was, as per my last annual report, 900,000.

In addition to these I received from the hatcheries in Ontario 3,000,000 whitefish and 500,000 salmon trout ova. This stock was further increased through an accident having occurred at the Dunk River Hatchery by which it was rendered impossible to continue the incubation of the salmon ova gathered at that point. I was instructed by the Superintendent to remove those eggs to this hatchery, which was successfully done to the number of 750,000 ova, making my total supply 5,150,000 eggs.

I was most fortunate in hatching this large number of salmon and whitefish, but I regret to be compelled to again report the loss of the greater portion of the salmon trout ova. This loss was of precisely the same nature as was met during the two previous years. The eggs when placed in the hatching troughs were apparently strong and healthy, and continued in this favorable condition until about to burst from the shell, when fully 90 per cent. of them died. Shortly after these eggs



arrived here I took one lot of 60,000 to Lochaber, Antigonish County, and a second lot of 50,000 to Sheet Harbor; these were placed in the troughs of the temporary hatcheries erected there and with these the most perfect success was met with in hatching them. These hatcheries, being used only for a few weeks in the spring of the year, while well and conveniently arranged for the purpose, have not the numerous appliances for carrying out the work that the main or central establishment is provided with, and in consequence large quantities of filth and sedimentary matter are at times carried in to the troughs and deposited upon the ova. This occurred at these points on several occasions and necessitated severe handling of the ova, in order to cleanse them, but notwithstanding this, almost every egg hatched and the young fish, after emerging from the shell, was stronger and more lively than were the salmon ova hatched under similar circumstances, and I am informed by the parties in charge of them, that, when turned into the lakes they were in perfect condition and had outgrown the salmon. The reverse was the case with those retained in this hatchery; as stated before, nearly all died when bursting from the shell, and the few that survived I found almost impossible to save until the proper time for distribution. Fearing the supply of water to the troughs set aside for the hatching of these fish was insufficient, I procured four large galvanized tanks, which were placed on a foundation outside of the hatching room, and the young fish put in them, and a bountiful supply of water turned on, but in spite of every effort they continued dying, so that when at the proper age for distribution, but a small percentage of them was left.

These eggs, from the time they were placed in the troughs here until hatched, received the closest attention, and no sediment or fungoid matter permitted to remain upon them for a moment. Having failed in past years with this particular kind of fish, I was determined to succeed this season if possible, yet I was doomed to disappointment. I have now concluded that the water with which this hatchery is supplied is of such a nature as to be injurious and detrimental to the growth of the young salmon trout, and that it will be useless to make any further attempt here. Should the department contemplate continuing the effort to stock the lakes of this Province with salmon trout, the little hatcheries erected throughout the more remote counties can be utilized for that purpose, and to this end I would respectfully suggest that they be enlarged so that room may be provided for the usual number of salmon ova, in addition to the numbers of trout ova, that may be sent them.

This hatchery can be used as a point at which the ova may be received from Ontario and from which the several quota may be sent to the outlying points. Since the first attempt on the part of your department to introduce the whitefish and salmon trout into the inland waters of this Province, a very general desire has arisen amongst fishermen and others interested that these efforts be continued on a liberal scale. Covered, as this Province is to one-fifth its area, by large and deep lakes, it presents a very favorable field for the creation of an extensive inland fishery, which, if once established and properly nurtured thereafter, might attain almost unlimited possibilities. The completion of new lines of railways, now under construction and in contemplation, will open the interior of the Province where the best of these lakes are situated to the markets of the continent, and add materially to the value of the fisheries of Nova Scotia.

#### *Distribution of Fry.*

The distribution of the various kinds of young fish hatched in this institution last spring was successfully effected amongst the lakes and rivers as per following schedule:—

#### *Salmon Fry.*

Musquodoboit River, Halifax County.....	80,000
Sackville do do do .....	80,000
Nine Mile do do do .....	80,000
Pennant do do do .....	40,000
Indian do do do .....	40,000

Little Salmon River, Halifax County.....	40,000
Ecum Secum do do do .....	80,000
Salmon do Colchester do .....	40,000
North do do do .....	40,000
Stewiacke do do do .....	40,000
Wallace do Cumberland do .....	80,000
Philip do do do .....	40,000
West do Pictou do .....	40,000
East do do do .....	40,000
Middle do do do .....	40,000
Shubenacadie do Hants do .....	40,000
Cornwallis do King's do .....	40,000
Gaspereau do do do .....	40,000
Gold do Lunenburg do .....	20,000
Middle do do do .....	20,000
East do do do .....	80,000
La Have do do do .....	40,000
Annapolis do Annapolis do .....	40,000
Tusket do Yarmouth do .....	60,000
Liverpool do Queen's do .....	60,000
Lochaber do Antigonish do .....	160,000

Total salmon fry..... 1,400,000

*Salmon Trout Fry.*

Sheet Harbor Lakes, Halifax County.....	40,000
Sandy do do do .....	20,000
Williams do do do .....	20,000
Governor's do King's do .....	20,000
Guttridge's do do do .....	20,000
Fisher's do do do .....	20,000
Lochaber do Antigonish do .....	80,000

Total salmon trout fry..... 190,000

*Whitefish Fry.*

Grand Lake, Halifax County .....	1,400,000
Williams Lake do .....	700,000
Sandy do do .....	700,000

Total whitefish fry..... 2,800,000

Total distribution of Salmon.....	1,400,000
do Salmon trout.. ..	190,000
do Whitefish.....	2,800,000

Grand Total..... 4,390,000

As will appear from the above distribution of salmon fry, the work done by this hatchery is extended over a field, probably as large as by any other hatchery in the Dominion. This Province being almost an island, has a greater extent of sea-coast in proportion to its area than is found in any of the Maritime Provinces. This coast is indented with bays and inlets, some of which extend inland for many miles from the general coast line, and offer innumerable fishing stations for the capture of salmon.



The distribution of the young salmon bred in this hatchery has been performed in the past with the view of endeavoring to improve the fishery of almost the whole of this coast simultaneously; commencing at the Salmon River in Colchester County, whose waters are discharged into the extreme head of the Bay of Fundy on the north and west of the Province, thence among the different rivers met with along the coast of the Bay to the Tusket River in Yarmouth County, thence along the southern coast to the Straits of Canso, thence along the western coast of these Straits and of the Straits of Northumberland to the northern boundary of the Province, giving a coast line of about 600 miles and including twenty-six rivers which have received the several quota of fry.

It is questionable whether this wide spread distribution has operated for the best interest of the work, in the sense of proving the efficiency of the project and enabling the results of the artificial hatching to become readily apparent by comparison of the returns of salmon caught in different localities. The rivers stocked may be said to be tributaries to the whole coast of Nova Scotia in the respect of furnishing, nursing and feeding grounds for the young salmon planted in them, and in maintaining the fisheries of the Province. The work has not been confined to any particular locality but such rivers have been selected as were deemed most suitable for the purpose, consequently in searching for evidences of increase in the salmon frequenting and taken on the coast, it is necessary to take into calculation the catch of the whole Province.

The numbers of salmon seen or known to enter the rivers will furnish no correct data upon which to base a conclusion as to the increase of these fish. In many instances, these streams, during the summer months (when salmon are in proper condition for food and should offer good sport for the angler) do not contain sufficient water to enable salmon to enter or to induce them to remain therein any considerable time.

During a season when unusual quantities of rain have fallen, a much larger number of fish will enter the fresh waters than is the case when a dry season occurs, and in proportion to the number of salmon entering the streams is the catch on the coast and bays either large or small. A dry season when the rivers are low and salmon cannot enter them freely, a greater number will be caught by the nets in tidal waters, and the contrary is the case in a wet season. In my opinion, salmon approach our shores from the south and west. They skirt along the coast, entering the different bays and coves, making for the rivers at the heads of the bays, possibly each particular branch of the family seeking its own nursery. If, upon arriving at the mouth of the river, sufficient water is found to enable them to enter, they do so, and run up as far as possible; if deep pools and cool waters exist, these fish will remain in the river all summer. The result is the net fisherman is but poorly repaid for his labors that season. But if the reverse conditions are met with by these fish and they cannot enter the streams, they drop down again to the outer portions of the bays where they continue hovering around the shores, and a greater number are taken in the nets. Again this influx of salmon is subject to climatic influences and prevailing winds and storms. Instances of the effect of winds upon the courses taken by salmon while passing along our shores are of common occurrence, and fishermen having salmon nets set, observe the force and direction of the winds with considerable interest, and can, with accuracy, predict a good catch or the reverse. An instance of this nature occurred at St. Margaret's Bay, in this county, during the past season. Strong adverse winds which prevailed during the greater portion of the fishing season, prevented salmon from entering that Bay in their usual numbers, while in bays on either side of, and adjacent to it, but not unfavorably affected by the winds, large catches were made by the fishermen. The effect became more noticeable in the fly fishing on the rivers entering that Bay, where but little sport was obtained this season.

#### *Collection of Ova in 1888.*

Upon undertaking this part of the work this season, knowing that if the proper appliances for retaining the salmon after being captured, could be obtained at or near



Musquodoboit River, all the parent fish required might be secured there, it was decided to concentrate all efforts upon that point and thus avoid the expense and anxiety attending operations conducted at different points remote from each other. A dam which crosses this river at its mouth presents an insurmountable barrier to the entrance of fish. This is removed by a pass around the end of the dam formed by blasting out the adjacent rock. Up this pass salmon readily go when sufficient water is found in the river.

Having obtained the privilege of using for this season, a very suitable race-way in which to retain the salmon until ready for manipulation, a trap was constructed in this pass and it was confidently expected to secure a full supply of fish there in a few days, unfortunately, though, through the unwarranted interference of one of the wardens of the river, a gate which had been temporarily placed at the head of this pass to keep the fish, was removed by that officer and large numbers of salmon passed up, and the looked for supply of salmon escaped. However, as soon as possible, the work was renewed and in the course of a few weeks, the men succeeded in capturing 112 salmon. This number not being sufficient for the wants of the hatchery, more men were set to work on the West River in Pictou County, from which stream were taken 63 salmon. A further number of 10 salmon, were taken from the Chezzetcook River, a stream about 7 miles distant from the Musquodoboit. The total catch was as follows:—

	Males.	Females.	Ova obtained.
Musquodoboit River.	47	64	700,000
West River.....	29	34	350,000
Chezzetcook River..	4	6	50,000
Total.....	80	104	1,100,000

Making a total of 184 salmon, 104 of these were females and from which 1,100,000 ova were obtained. These were safely deposited in the hatchery troughs of this establishment, and are now in a good and healthy condition, and promise a successful hatching.

An effort is being made to find some suitable place for the capture of a full supply of parent salmon, where they can be taken during the early summer season. By the construction of a reservoir into which the tidal waters would be admitted at every flood tide, there would be no difficulty in retaining the fish until the spawning season arrives. By this plan, the uncertainty, which exists under the present system, owing to heavy freshets preventing the setting of nets in the fall, and at times the low stage of water rendering it impossible for the salmon to enter the river, will be obviated. The proposed plan has been in operation for some years in connection with the hatcheries of the Province of Quebec and has been proved to be very satisfactory. It possesses many advantages over that now in use here, and will materially add to the results of the work by producing an earlier run of fish than can be expected from those hatched heretofore in this Institution, which were the product of the late, or fall run of salmon. A general idea of this proposed plan was laid before the Department in a previous report, and as soon as a suitable locality is found for applying it, details will be given.

There is sufficient room in the hatchery for a large number of salmon-trout and white-fish ova, and it is expected that the usual quota will be obtained this winter from the Newcastle Hatchery in Ontario. I have recently found a locality from which I can obtain large number of sea-trout ova in the spawning months and with your permission, I hope to secure a good supply for next season's operations.

A. B. WILMOT,

*Officer in charge of Bedford Hatchery.*

#### 4.—DUNK RIVER HATCHERY.

PROVINCE OF PRINCE EDWARD ISLAND.

*Report of the Officer in charge of Prince Edward Island Hatchery, 1888.*

I beg to submit the following report of proceedings at the Dunk River Hatchery for the past year.

In the fall of 1887, 1,000,000 eggs were laid down in good condition. They did remarkably well up to the 22nd of March, when one of the heaviest freshets ever known on the river carried away our water gate and reception house.

I wired the superintendent to know what was to be done. He answered me back immediately to hire men to carry or pump water on the eggs night and day until further orders. A few days after Mr. A. B. Wilmot, of Bedford Hatchery, was directed to come over from Bedford to assist me. We got the ova into as small a compass as possible, so that we could keep plenty of water running over them all the time, and thus keep them in good condition until they could be carried away. Mr. Wilmot then returned to Bedford and did not come back until the *Northern Light* Steamer was able to cross the straits about the first week in April. Mr. Wilmot brought boxes to pack the eggs in for transportation to the Bedford Hatchery, which was done immediately on his arrival. About 800,000 eggs were so much injured that they were not fit to take away.

As the damages at hatchery were not repaired, there was nothing done here this season.

#### *Increase of Salmon.*

Salmon were never so plentiful since the hatchery was built as they were this season. On account of the heavy rain they came up the river earlier than usual. A great deal of trouble was caused by poachers this fall. On account of the dam being broken, the fish could run up several miles further, and there being so much woods along the river, poachers were on the look out day and night to catch the salmon. They would come to the river disguised so that you could not tell who they were. I had to apply to the Inspector of Fisheries of the Island for some special wardens, and they did very good service. Several boats were captured, some of which were claimed by the inhabitants as stolen. We destroyed two of the boats, as they were of no value, except for poaching on the river.

There are reports of large numbers of clean salmon being seen around the coast, and there have been large numbers caught in different places that we get no official account of at all. I have it from good authority that a Mr. Myrick, of Tignish, two years ago, caught a large number of salmon weighing from ten to fifteen pounds in traps, of which we get no official account. One person said he saw 1,000 frozen salmon in his establishment at one time. It is reported generally, and I believe also, that there is a veay marked increase in all the rivers that we have planted fry in, which goes to show that the hatchery has been the means of helping to make this increase.

#### *More Wardens Wanted.*

If this hatchery is not repaired before another season there will have to be two wardens appointed for up river, and one below, also, as I cannot protect the whole river properly without these wardens. It took up nearly all my time day and night travelling up and down the river, and I could not prevent them from poaching. Several shots from revolvers were fired at us in the night to frighten us and drive us off the river. There will also have to be one warden appointed for Wilmot River, as there is no one but myself to look after that river and I cannot properly see to both rivers.

With regard to breakage of the dam it was caused principally by trees that were cut and felled across the river above the pond, and they came down with the freshet



and got crosswise of the main part of the dam, and the gate on the other side, so that when the ice came down it had no other place to run only through the reception house, and the consequence was that, a very large quantity got piled up against it, and the gates had to go, as they could not stand the great pressure. This could be prevented in future by prohibiting parties from cutting and falling trees across the river, or by placing a strong boom across the pond. With regard to the cost of repairing the dam it can be done for three hundred dollars (\$300) and made stronger than ever. If the dam is repaired again we will require some new troughs and trays for the hatchery.

HENRY CLARK,

*Officer in charge, Dunk River Hatchery.*

## 5.—ST. JOHN RIVER HATCHERY.

PROVINCE OF NEW BRUNSWICK.

*Report from the Officer in charge of the St. John River Hatchery.*

I beg to transmit herewith a report of the operations during 1888, at the St. John River Fish Hatchery, in the Province of New Brunswick, under my charge.

As already reported, on the last day of October, 1888, I collected on the Tobique and Serpentine rivers 625,800 salmon eggs, which were successfully placed upon the trays in the hatching troughs in excellent condition. They continued to do well the entire winter, and hatched out about 85 per cent. of well developed young salmon in the spring. In the month of March a consignment of semi-hatched fish eggs were received from the Newcastle Hatchery, in Ontario. I met them at St. John, and had them conveyed to the hatchery. They were in fair condition, and they did very well for the balance of the season. In the month of May, a more than usual loss occurred in the salmon-trout ova; with this exception the results were very good. At the unpacking of the ova at the nursery I found they had been packed with care and judgment, a fact that fully accounts for the good results that followed.

### *Distribution of Young Fish.*

On the 30th April, I commenced to distribute the whitefish, and continued, with some slight intermission until the work was finished. During the time of planting the whitefish the operation was somewhat interrupted by the instructions from the Department of Fisheries, at Ottawa, to stop any further distribution of fry, until further orders. This delay caused quite a loss in the young fry then on hand, because, as it is well known, the whitefish fry will not suffer to be kept for any length of time in the nursery, after they are hatched out. The consequence was, that I was unable to comply with the order when it came, as the distance to the lake designated in the instructions was too far away, and the fry too old to bear carrying so far with safety; therefore, in order to save the fish, I was compelled to plant them in more convenient places. I beg to suggest, that persons wishing to get fry should be told to make their application earlier in the season, so that the officers would be in a position to fill the orders at the proper time, when the fry would be in the fittest state for removal. I desire to state here, that several persons have already made inquiries about young fry for next spring, more especially salmon, and salmon-trout, and I regret, that from present appearances, I cannot give satisfactory answers. I think this is very unfortunate, as already a great deal of dissatisfaction exists amongst the people in the adjoining and lower counties, particularly the Counties of Carleton, York and Charlotte, regarding the apparent difficulty in getting parent salmon for stocking this hatchery with ova. The universal cry is, why not get them at the St. John harbor. I will refer to this matter further on in this report, and now give a statement of the planting of fry last spring. On the 22nd of July last,



I completed the work of distribution by putting the balance of the young salmon, that were in the house, into the St. John River.

Below is given a tabulated statement of the quantity of fry, and the names of the several lakes, rivers and streams and the counties in which the different kinds of young fish were planted.

*Whitefish.*

Magaguadavic Lake, York County .....	466,662
Harvey Lake do .....	466,662
Oromocto Lake do .....	622,216
Magaguadavic Lake do .....	466,662
Lakeville Lake, Carleton County .....	466,662
Tomlinson Lake, Victoria County .....	155,554
Rapid des Femmes Pond do .....	155,552
Total, whitefish .....	<u>2,800,000</u>

*Salmon-Trout.*

Lakeville, Carleton County .....	146,000
Air and Debec Lakes, Carleton County .....	75,000
Magaguadavic Lake, York County .....	154,000
Harvey Lake do .....	100,000
Utopia Lake, Charlotte County .....	160,000
Long Lake, Victoria County .....	75,000
Webster Brow Lake, Victoria County .....	45,000
Tomlinson Lake do .....	25,000
Quaker Brook Pond do .....	25,000
Total, salmon-trout .....	<u>805,000</u>

*Salmon.*

St. Croix River, Charlotte County .....	180,000
Utopia River do .....	30,000
Magaguadavic River, York County .....	40,000
Tobique River, Victoria County .....	150,000
Lakeville Lake, Carleton County .....	12,000
St. John River, Victoria County .....	125,000
Total, salmon fry .....	<u>557,000</u>
do salmon-trout fry .....	805,000
do whitefish fry .....	<u>2,800,000</u>

Grand total of fry of all species for the year... 4,142,000

*Repairs, &c., to Hatchery.*

Immediately after the distribution of the young fry was completed the work of cleaning up, washing and varnishing the tanks, trays and troughs was done, also the putting away of all the appliances in proper order for the next season's operations. The changes or repairs made in or about the house this year were very small. A portion of the reception dam was removed according to instructions received from the Department. Six small tanks to receive the whitefish fry when hatched out, and a small tank to supply water, and a half dozen tin tubes. These, with some slight repairs to the supply dam constituted, the amount of expense incurred about the establishment the past season, but more extensive repairs will be required another

year. In accordance with the instructions regularly given me by the Superintendent, I kept down the expenses as much as possible.

*No Parent Salmon Collected.*

In the month of August last I wrote to the Department for instructions about the capturing of parent salmon, and was informed that it was not the intention of the Department to capture any salmon on the Tobique the present season, and that this hatchery would be supplied with ova from the Ristigouche, but up to the present time I have not received a supply of eggs.

*Some good results from the Hatchery.*

With regard to the progress that has been made in replenishing some of the rivers with salmon and some of the lakes with salmon-trout and whitefish, I beg to say that the good results are very apparent, although the time has been rather too short as yet for the full development of the salmon-trout and white-fish; still a sufficient proof has been obtained to show that these fish are growing and doing well in the places where they have been planted. Mr. John Stewart, Superintendent of the New Brunswick Railroad, has stated that he has caught some very fine specimens of the salmon-trout in Skiff Lake, and he is much pleased with the experiments of stocking these waters, and he has been making inquiries for further supplies of fry. My own sons have caught a few beautiful salmon-trout in the basin below Grand Falls. These are no doubt the growth from fry turned out two years before. Information has been given also by some fishermen that a fine lot of salmon-trout were taken in the Williamstown Lake. Dr. McCrea, of Lakeville, has interested himself very much in getting this lake stocked. As regards the improvement in the salmon fishing in the St. John and Tobique Rivers, and their tributaries, it is admitted on all sides and by every class of fishermen, tourists, and residents that the run of salmon in the Tobique was good the last summer and that it has improved one-half within the last two and three years, and that angling has been excellent. As a proof of this statement the Local Government has leased the Tobique waters for a term of five years to a company for fly fishing. This has caused a great deal of jealousy towards the lessees by the settlers; the latter finding that the salmon were getting more plentiful, and the fishing improving, were not disposed to allow what they considered their rights to be infringed upon by strangers, and serious difficulties arose which resulted in the murder of the wife of an American angler by one of these lawless poachers last season.

A few years ago, before artificially, bred salmon were planted in the Tobique, no person would give five cents for the privilege of fly fishing in it, but now a handsome rental is paid for angling in it. All along the St. John River in the Counties of Carleton and York, and the lower sections of Victoria County, net fishing has improved wonderfully within the last few years, or at least since the stocking of them with fry had begun from this hatchery; and a very different kind of salmon is said to be taken. Some say these are the result of the California fry put in the river. All of the above improvements are to be attributed to the artificially raised fish put out from this establishment. The beneficial results arising from the planting of these young fry are visible on every hand. In travelling by canoes on the Tobique and other rivers you can observe great numbers of young salmon on all gravel beds, sand bars and shoals. If it were possible to protect these rivers as they should be against poaching and over-fishing for a few years, until the young fish got a better chance to grow and multiply, I think the salmon fisheries of the St. John waters would be second to none other in the Province. It would, therefore, seem to be almost a necessity that, the Fisheries Department should keep this nursery properly filled with ova hereafter.

There are a considerable number of salmon yet caught throughout the whole length of the river every year for home consumption, but no reliable record is ever kept, or rendered officially of the quantity, as the fishermen are opposed to giving any information that can be relied upon. In conclusion, I may state that the neces-

sary supply of fuel for this house, consisting of wood and coal, has been laid in, so that this establishment will be found in readiness to receive whatever quantity of eggs may be sent here from the Newcastle, or Ristigouche Hatchery at a suitable time for their removal, and I beg to suggest that the transfer of ova be made at as early a date as possible.

All of the above is most humbly submitted, but I desire again to respectfully urge upon the Minister of Fisheries the great necessity that exists for providing the proper ways and means for supplying this important hatchery with the requisite number of parent salmon to fill the house abundantly with eggs in the future.

CHARLES McCLUSKEY,  
*Officer in charge of St John River Hatchery.*

## 6—MIRAMICHI HATCHERY.

### PROVINCE OF NEW BRUNSWICK.

*Report of the Officer in charge of the Miramichi Hatchery for 1888.*

I have the honor to submit herewith my annual report upon the operations connected with this Fish Hatchery under my charge.

As stated in last year's report, I laid down in the hatching troughs of this establishment, 1,300,000 salmon ova from which were successfully hatched 1,240,000 fry. In addition to these I received 50,000 ova from the Ristigouche house. These were brought here about the 1st March when the young fish were well formed in the shell. They were in a very healthy condition, in consequence of which out of the 50,000 ova scarcely an egg was lost after they were placed in our hatching troughs. This gave me a total of 1,290,000 young fry which were successfully planted in the following streams, namely:—

North-West Miramichi .....	650,000
Little South-West Miramichi.....	400,000
South West do .....	50,000
Sevogle River.....	100,000
Stewart's Brook.....	40,000
	<hr/>
	1,240,000
Fry from Ristigouche planted in head waters of North-West Miramichi.....	50,000
	<hr/>
Total.....	1,290,000

According to instructions I planted the fry as far up the streams as possible. I may here state that the work of planting fry in the head waters of these streams is full of difficulties, as the roads, after passing the head settlements, are only portages and are nearly impassable at the proper time for distributing the fry. But after these difficulties are surmounted some of the finest places that could be wished for planting the young salmon in, are reached. Owing to a great deal of labor and expense which certain private parties have expended on the roads along the upper reaches of this river, the work of carrying fry will not be so difficult in future, for the journey will then be made much quicker, thereby lessening the time the young fish will be on the road, and also enabling them to be planted without the same danger as before of loss by delays.

Owing to the better accommodations we now have for planting fry from this hatchery and to the advanced principles on which artificial fish hatching is carried on in Canada, I am certain that the benefits that will accrue from this industry will



be very great. The work in the past is now showing good results, as the net fishing was better this year than it has been for the past three or four seasons. The fly fishing is also reported to be ahead of any other season for the past fifteen years. It is the belief that, if it had not been for the fry which have been distributed from this hatchery from year to year, this valuable game and commercial fish would now be an article almost of the past, just in like manner as the striped bass, which used formerly to swarm in this river, but which now are nearly exterminated simply because the law has not been enforced, and there was no proper protection given to them at the breeding time.

Previous to the past two seasons I have witnessed poachers destroying parent salmon, after the close season had set in, both with set, and sweep nets, by hundreds upon hundreds, until the river would be almost entirely cleared of fish; so much so was it the case that the men engaged by me to procure parent salmon for the hatchery, with all their skill and best appliances, would at times sweep the river from the head of the spawning grounds to the tide-way, and not capture ten fish—and the men appointed by law to protect the streams from those poachers, would be seen looking after other affairs and would perhaps only visit this scene of extermination once a month. Now those persons who may bear no animosity against the artificial hatching should ask themselves where did the supply come from during this time? It certainly was not from the ova naturally deposited, for, in my opinion, during the six or eight years previous to the past two seasons, there were not as many ova naturally deposited, as would be laid down in the hatchery in one season. Therefore, as there has been a fair average catch of fish during the past six or seven years, I am certain that it is the result of planting so many fry in the head waters of the river from this establishment.

But I am pleased to state that owing to the efforts of our newly-appointed overseer, and the men under his charge, the spawning salmon have been well protected for the past two years from poachers, which I may also state has rendered the work of procuring parent fish for the hatchery much easier, and more certain than in the past.

Not having any means of obtaining statistics of the catch of salmon for the past season I cannot speak positively of the numbers, but all parties say that fish were plentiful. The fall salmon were present in great numbers, and parties say that after the high water which prevailed this fall, the pools on the heads of the rivers were literally alive with fish.

#### *Capture of Parent Salmon.*

In this branch of the work this season I have not been as successful as I would wish to have been. This was not due to the scarcity of parent fish, but to the extreme high water which rendered it impossible for the fishermen to do anything, and which, unfortunately, came before I had a full supply, and owing to the continuous rains the water did not fall sufficiently for operations to be resumed for nearly a fortnight. When the men again went to work, the river still being greatly above the general level, thereby rendering the work full of hardship, and very difficult for capturing any parent fish, except a few that had previously spawned, I stopped operations and had to be satisfied with the supply previously obtained. The fish were captured on the North-West Miramichi and its branch the Little South-West.

The number of fish taken from the North-West was 153, and from the South-West we procured 137, making a total of 290, of which 150 were females and 140 males. From this number of salmon I gathered 830,000 ova, which I am pleased to state are in a very healthy condition, having met with a very small loss up to the present date.

In conclusion, I beg to state that this hatchery and all its appliances are in good condition and that no unusual expense need be incurred during the next year, except that a new scow for towing purposes will have to be built, as the old one is completely worn out. The supply dam of the hatchery, which was torn away by

the high freshet this fall, and which was immediately rebuilt, has given perfect satisfaction up to the present time. In addition to this report I have forwarded some statements which have been given me by prominent persons here, who give the most satisfactory accounts of the successes which have been felt by fishermen in the maintenance of the salmon fisheries on the Miramichi waters from the work done at this hatchery.

This and other information which I have received from various sources, leads me to believe that the salmon are increasing in satisfactory numbers.

ISAAC SHAESGREEN,  
*Officer in charge Miramichi Hatchery.*

## 7.—RISTIGOUCHE HATCHERY.

### PROVINCE OF QUEBEC.

*Report of the Officer in charge of the Ristigouche Hatchery for 1888.*

I beg herewith to submit my annual report on the management of the Ristigouche Hatchery for the past year.

In the fall of 1887, 1,900,000 eggs were deposited in the hatching troughs, from which 1,720,000 fry, and 50,000 eyed eggs were turned out. The fry were successfully planted in the following rivers:—

Kedgewick River.....	400,000
Upsalquish do .....	200,000
Nipisiguit do .....	150,000
Matapedia do .....	300,000
Jacquet do .....	50,000
Main Ristigouche, from hatchery to mouth of Kedgewick.	620,000
Total.....	<u>1,720,000</u>

### *The Eyed Eggs for Miramichi and Fry for Nipisiguit.*

The 50,000 eyed eggs were conveyed to the Miramichi establishment in the latter part of April. The fry were distributed in the usual manner, the greater portion being towed in cribs far up the river, cans being used when the fry had to be conveyed over the railways. The work of distributing began 15th June and ended 15th July, and was performed without any loss occurring worthy of mention.

The 150,000 fry carried to the Nipisiguit River were planted in very fine condition. J. De Wolf Spurr, Esq., and other anglers that were on the river at the time, saw the fish before they were planted.

Angling on the Nipisiguit at that time was proving very satisfactory. Mr. Kinnear, a lessee at Pavineau Falls, some ten miles from the mouth of the river, had already landed several fine salmon that day, and strongly expressed his belief that many of the fish he caught were of the Ristigouche family of salmon, as they were larger, and differently shaped from those of the Nipisiguit salmon. He felt certain they were from the fry that were brought over some years previous from the Ristigouche Hatchery.

### *Supply of Parent Salmon.*

I regret being unable to report a larger supply of fish for the stocking of the hatchery this season. Owing to the unusual lateness of the spring and the very high freshets extending until the 15th of June, the first run of salmon had entered, and passed up the river, before it was possible to set the nets out, or get the reservoir in working condition.



The Mission Point net was set in fishing order 9th June, capturing some ten fish the first night, proving as above stated, that the fish had been running in the river in large numbers for some time previous. To further corroborate this statement, and to prove that very often numbers of salmon enter and pass up the river in the early part of May, when the rivers are swollen and filled with snow water, and impossible to set out a net, and that in some instances they pass up while the ice is still in the river. In evidence of this theory, a short piece of net was set out between Campbellton and Dalhousie about 20th of May this season, and twelve fine salmon were caught in it the first night. This is pretty good proof that many salmon pass up to the spawning grounds at the head of the rivers before the nets can be safely set out.

The Government net at the camping island, owing to high water and strong currents, was not placed in fishing condition until the 14th of June. This net by special permission was kept set until the 1st of October, but only 13 fish were caught in it during the month of August and three during the month of September.

The statement of parent salmon caught in the Government nets, and of those purchased from neighboring fishermen is as follows:—

Net at Island from June 14th to October 1st.....	150
Mission Point set from June 9th to July 20th.....	96
Purchased from W. Pratt.....	17
do           Melvin Adams from 12th June to 12th July...	90
Total.....	353

Some 30 of these fish died from fungus growth in the gills and other parts of their bodies, where they were injured in the nets, and when conveying them to the retaining pond.

#### *Manipulation of Salmon.*

The fish were caught in the reservoir and placed in the cribs on the 20th of October, and operations continued until the 10th of November; 315 were found in the pond, 160 males and 155 females, from which were collected 1,500,000 eggs. These ova were conveyed to the hatchery in scows and successfully deposited in the hatching troughs without meeting with any loss, and at the present time they are looking very healthy. I anticipate the hatching of a larger percentage than usual.

A number of the parent fish were retained a few days in the pond after being stripped. They appeared as lively as possible when liberated. No loss occurred in the spawning of the fish or in conveying the ova to the hatchery.

#### *Repairs to Retaining Pond.*

Owing to the very high freshets in October, undermining and washing away the banks of the narrow channel, in which the reservoir is built, it will be necessary to construct two small piers or blocks to attach the wire screen net work to, and hold it secure in time of freshets. The trees on the edge of the islands, which form the creek or channel have heretofore supported the timbers, are now tumbling down from the effects of the freshet, and will be unsafe to trust to in the future. The work of building the piers can be done in the spring while the ice is still on the river. In connection with this pond a reception house, 20 by 22 feet, was constructed at the island during the past season for the convenience of the men, and for safety from frost while spawning the fish, and packing the ova.

#### *Condition of the Hatchery.*

All the trays and troughs were varnished during the past season and the hatchery with all its appliances is in good working condition, and very little more plant will be required for carrying on the work another season.

As regards the small artificial retaining pond at the hatchery, the heavy freshet in October flooded the pond, and allowed all the young salmon that were in it to escape. The water was so high as to overflow the whole flat, and was up to the floor of the hatchery.



*General Remarks.*

The catch of salmon in the tide way and bay has not been quite equal to that of 1887. Some of the favorite localities on the bay shore gave good catches. Many others where they were late in setting nets did nothing. The netters from Gaspé to Maria had a good catch, showing that the first run of salmon were more numerous on the north shore of the bay. The angler's catch far exceeded that of last year and compares most favorably with former years, in fact many say it has been the best angling season that has ever been known on the Ristigouche. Statistics show upwards of two thousand salmon taken with the fly. Very good fishing was had on the Upsalquitch River, where it has been poor for a number of years. The officers and guardians and scow men say they never saw so many spawning fish as there were on the beds in the river this fall.

The question may be asked, how can these large numbers of spawning salmon be accounted for. I answer in various ways:—(1) There was a large run of fish passed up the river before the nets were, or could be set out in the early spring. (2) There was a heavy freshet just at the usually best fishing season, which swept away many nets and fishing plant. (3) The shortening of the fishing season, owing to these late heavy freshets; and also the hot weather in June, which causes the growth of that destructive and so much dreaded green slimy matter in the water, which so soon as it begins to collect on the nets, the fishermen as a rule stop fishing, as the salmon will not enter the nets when the meshes show this filthy appearance. (4) And probably the stricter observance of the weekly close time of Saturday till Monday, some fifty miles lower down in the Bay des Chaleurs, which would allow many more salmon to escape the nets and pass up the river than formerly.

In concluding this report I desire to say that the uniform good catches of salmon, which have been experienced during the past five years in the Ristigouche River and Bay, has at last convinced the large majority of the fishermen to advocate the utility of the work which has been carried on, of supplementing the product from the natural laid ova, with the millions of artificially bred fry annually planted in the river from the Ristigouche hatchery, and it is now conceded by the great majority of both anglers and net fishermen that this artificial assistance has been the main factor in placing the salmon fisheries of the Ristigouche River, and its estuary, among the foremost on this continent.

ALEXANDER MOWAT,

*Officer in charge Ristigouche Hatchery.*

## 8.—GASPÉ HATCHERY.

### PROVINCE OF QUEBEC.

*Report of the Officer in Charge of the Fish Hatchery at Gaspé for the Season 1888.*

I beg to report briefly operations at the Gaspé Hatchery as follows:—

The repairs made to the reservoir or retaining pen for salmon last year made it tight and safe for keeping the fish in. The ova did well during the winter, and at hatching out time, on the 19th May, the temperature of the water was 38° when I noticed a few fry coming out. On the 5th June the fry were all out and the trays were removed on the 18th June. I commenced putting the young fish into the river and finished the work of distribution on the 14th July.

The following will show the number of fry placed in each river:—

Dartmouth River, above the falls.....	130,000
do below do .....	380,000
St. John River.....	170,000
York River.....	120,000

Total..... 800,000

The fry were deposited in the rivers in good condition. It must be noticed here that the estimated number, 750,000, of ova placed in the building in the autumn of 1887 was too small, as the actual quantity was 840,000.

*Parent Salmon, 1888.*

The number of parent salmon captured and purchased was 49. Owing to high water the net could not be set until the 15th June and it had to be raised twice on account of rain storms, causing heavy freshets in the river. I would recommend the capturing of parent salmon, for the future, in Gaspé Basin by setting the nets in Patrick Mackenzie's station. In this manner a greater supply of parent fish might be secured from the larger and earlier runs of salmon which enter the bay.

*Manipulation of Fish.*

The salmon were placed in cribs on the 15th October. A very heavy rain came on the 8th and the cribs sank two feet under water on the 9th. I procured extra help and raised and secured the cribs, and found the fish had not suffered. It was fortunate they were caught and put into the cribs, as, had they been left in the brook till the 8th October, they would have been lost to us for spawning purposes by the heavy freshet. As it was four were left, as they could not be netted owing to the continual rainfall.

I commenced taking ova on the 10th October and finished on the 30th. There were 36 females and 8 males; I estimate the number of ova placed in the building at 350,000, or an average of 9,700 eggs to each female.

*Painting and Repairs.*

The trays and troughs were varnished in the summer, and the building was aired and dried as much as possible.

In last year's report I mentioned the necessity of painting the exterior of the establishment, and the same remark may be made this season again.

*The St. John River Salmon increased in size by artificial means.*

The canoe men employed by anglers on the St. John, or Douglstown River, at Gaspé, have informed me during the past few years that, the weight of the salmon caught on said river has been much heavier than formerly. The average of the fish was only about 15 pounds, but lately it has reached 18 pounds. During the year 1885 a salmon was taken on the St. John which weighed 30 pounds, and in 1886 another of 29 pounds. The fishermen attribute this increase in the size of the St. John River salmon to the planting of quantities of fry from the Gaspé Hatchery, which were bred from the eggs of the larger kind of salmon, which are natives of the Dartmouth River; they also say that these larger salmon taken in the St. John closely resemble the Dartmouth River fish.

PHILIP VIBERT,

*Officer in Charge, Gaspé Hatchery.*

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9.—TADOUSSAC HATCHERY.

PROVINCE OF QUEBEC.

*Report of the Officer in Charge of the Tadoussac Hatchery for 1888.*

Herewith is submitted the annual report of the operations carried on in this institution under my charge during the past year. As previously reported, from the 902,400 ova deposited in the hatchery in the fall of 1887, 850,000 fry were successfully hatched and planted in the following rivers and lakes:—



St. John River.....	200,000
River A Mars.....	100,000
St. Margaret River, N.-W. Branch.....	50,000
St. Margaret River, N.-E. Branch.....	150,000
St. Ann River.....	15,000
Mowat's Lake.....	300,000
Hatchery Lake.....	35,000
Total.....	<u>850,000</u>

#### *Safe Distribution of Fry.*

I am happy to state that the salmon fry hatched last spring were turned out in very good condition. The fry for the St. Margaret River, both branches, St. Ann River, Mowat's and Hatchery Lakes, were planted in these waters under my special charge, and the fry for the Rivers A Mars and St. John were put out by the caretaker, Mr. Plourde. One lot of 50,000 fry, intended for the Little Saguenay River, were put into Mowat's Lake. This was done to prevent any loss, as the weather had become very warm and it was impossible to procure a tow-boat, and there was no good wind to go by sail boat. The 15,000 fry for the St. Ann River, below Quebec, were put in that stream without the loss of a single one, to the great astonishment of the proprietor of the River, Capt. Kane, and other witnesses. The fry were taken a journey of 175 miles by boat and 28 miles by land. I left Tadoussac with the young fish at one o'clock on Saturday, and the next day, Sunday, at three o'clock in the afternoon, the fry were put in the river. I changed the water six times en route.

#### *Large Exhibit of Young Salmon (Smolts).*

I believe that all the smolts from the fry put into the hatchery lake, passed down to the salt water during this season, on account of the summer being so continuously wet, which caused the water of the lake to flow all the time over the dams. They were seen in large schools, mixed up with the parent salmon in the salt water pond. I caught some of them with a fly to see what they were eating; I found them full of "chevrettes" by the French name. At the end of October in securing the parent salmon, these smolts were a real nuisance in filling our nets, for we caught hundred and hundreds of them which gave us a good deal of trouble to put them back in the water. I have a great faith in small lakes being used as nurseries for salmon fry. I visited the Mowat's Lake, and sent men to clear the brook running from the lake to the St. Lawrence, to give a good free passage for the smolts to reach the salt water. I have been told by many persons, and especially by the guardians of the salmon rivers, that young salmon are seen in great numbers all along the rivers, of the size of five inches and more. We saw more grilse coming around the hatchery cove than usual. We caught over thirty of them in our Point Rouge Fishery. We caught one day as many as seven. They were all put back in the water, being of no use for the hatchery. There is an increase in the catch of salmon by nets. The best fishing time has been from the 10th to the 25th of June. By the report of the guardians to the Local Government, the salmon rivers are well stocked with fish, only to mention the St. Margaret River, the guardians counted 520 salmon on the spawning grounds.

#### *Capture of Parent Salmon.*

We caught for this hatchery 244 parent salmon, 161 females and 83 males. We lost one female by accident, caught by the trap door in the iron gate. That trap door has been very useful in keeping some two feet more of water in the salt water pond between the tides. The door opens by the effect of the tide when coming in, and closes by the pressure of the water when the tide runs down. The 160 female gave 1,625,000 ova, an average of a little over 10,000 for each. The eggs were all laid down in the hatching trays in good condition. The work of spawning



commenced on the 24th of October, and was completed on the 10th of November, and the parent fish were liberated without any loss. During the summer our nets have been cut twice by evil disposed persons during the night, and the rope that holds the two nets for the salt water pond has been cut also. No doubt it was done with the intention to let the parent salmon go. It was found out just in time by the night watchman to prevent a loss. That rope has been replaced by a wire one.

#### *Repairs to the Hatchery.*

During the summer I had the building cleaned; twelve new troughs and a new tank were procured to replace old ones in the second flat; and temporary repairs were done all over the building. I had the building inspected by a competent man, who is a good expert in building houses and constructing wharves. He says the upper part of the building is still good; it requires that part of the foundation removed that is exposed to moisture; that part always in the water is still good. There is wanting a new pine floor, shingles to cover a part of the building, and the wall on the side of the wharf must be repaired and filled up with saw-dust. With such repairs the hatchery will be safe for a good many years to come, and the estimated cost for doing the whole work complete amounts to the sum of \$500 covering the painting to the inside and outside of the building. We require for next spring a new net for the salt water pond.

#### *Improvements in the Saguenay Salmon Fisheries.*

It is difficult to give a correct idea of the anglers' catch in the salmon rivers in my district. The anglers always come too late for the best fly fishing season, and do not fish the waters as they ought. The St. John River has only been fished two days by the proprietor, John Price, Esq., who caught 18 salmon in that time. It is the same with the River Amars which also belongs principally to Mr. Price. I said in a former part of my report that there was an increase of salmon in my district. I will now explain it: from 1886, the first year of my taking charge of the Tadoussac hatchery there were 14,790 lbs. of salmon taken in nets; in 1887, last year, the Department issued twenty salmon fishing licenses; their return was 16,720 lbs. of salmon taken. This season of 1888, fifteen licenses were issued but only thirteen of these were fishing and we have a return of 24,000 lbs. for this season. This is certainly a steady increase for the last three years. The great increase of young salmon in the rivers, where salmon fry have been planted for the past number of years, is an unmistakable sign that this benefit is due certainly in part to the Tadoussac hatchery, for the reason that, where the salmon fry are from this hatchery, planted in the streams which empty into the Saguenay, they have a better chance to escape the enormous quantity of trout found elsewhere. I learn from Mr. Napoléon Gauthier, a local guardian, that he often examines the breeding grounds in the St. Margaret River and the spawn beds are covered with trout, he caught some of them and found them full of salmon eggs. It is for that reason that I prefer the planting of fry in lakes where trout are not found. Mr. Jerry Maker, who has a brush fishery, just below the cove where the brook from the Mowat's Lake runs out, told me he caught a great number of young salmon there; he says they must come down from the lake above, because it is the first time this thing has happened. From the very great numbers of young salmon observed by every one going along the lake, a great quantity will go out every year, as long as we continue to plant fry in it. In leaving the lake they are of a good size to care for themselves. Smolts in large numbers have been noticed many times last summer round the wharf in Ha! Ha! Bay, by Capt. Lecours, of the steamer "St. Lawrence," and by Capt. Bareas, of the steamer "Union," and by hundreds of other persons. They were young salmon coming out from the River Amars, in which stream salmon fry have been planted every year. The number of grilse coming around the hatchery cove, and the female salmon which have been seen, by hundreds of people, waiting, during three months, at the iron gate of the pond which is the place where they, no doubt, passed out to the St.

Lawrence when they were smelts, is a good proof that the Tadoussac hatchery is doing some good towards increasing the salmon in this district.

On one occasion I allowed the Professor Raymond Casgrain to fish the little lake just above the hatchery where we plant so many fry every year. He was permitted to take six, and in about twenty minutes he came back, much delighted, with six young salmon. I gave, another day, the same privilege to Mr. I. D. Guay, proprietor of the newspaper, the *Progrès du Saguenay*. He was astonished at the number of young salmon that could be caught in this little lake. It is a splendid fishery. The two parties were allowed to catch these fish in the hatchery lake as an experiment to show how numerous the young salmon were in it.

This report is humbly submitted.

L. N. CATELLIER,

*Officer in charge Tadoussac Hatchery.*

## 10.—MAGOG HATCHERY.

### PROVINCE OF QUEBEC.

*Report of the Officer in charge of the Magog Hatchery for 1888.*

I beg leave to submit the following annual report of the work of the Magog Hatchery for the past year.

On the 7th day of March last there were received from the Newcastle Hatchery in Ontario and deposited in the Magog Hatchery 2,500,000 salmon trout eggs and 1,500,000 whitefish eggs, all of which were fully eyed and well developed. The water supply here was colder than usual owing to the extreme lateness of the spring, consequently the eggs were nearly one month later in hatching. Notwithstanding this it is very gratifying to state that 1,350,000 whitefish and 2,125,000 salmon trout fry were hatched and safely deposited in a vigorous healthy condition in the following named sheets of water in accordance with the instructions from the superintendent of fish culture:—

### SALMON TROUT DISTRIBUTION.

Date.	Lakes.	Counties.	Number.
1888.			
May 23.....	Massawippi .....	Stanstead.....	150,000
do 24.....	Orford .....	Brome and Compton.....	150,000
do 25.....	Megantic.....	Megantic.....	150,000
do 29.....	Memphremagog.....	Stanstead and Brome.....	200,000
do 30.....	do .....	do .....	200,000
do 31.....	do .....	do .....	200,000
June 4.....	Selby.....	Missisquoi.....	75,000
do 5.....	St. Charles.....	Beauce.....	50,000
do 5.....	Fortin .....	do .....	100,000
do 5.....	Memphremagog.....	Stanstead and Brome.....	200,000
do 7.....	Baldwins .....	Stanstead .....	50,000
do 8.....	Memphremagog.....	do and Brome.....	200,000
do 9.....	Orford .....	Compton do .....	100,000
do 9.....	Memphremagog.....	Stanstead do .....	125,000
do 11.....	William .....	Megantic.....	100,000
do 11.....	Richmond .....	Richmond.....	25,000
do 13.....	Bamston.....	Stanstead.....	50,000
Total.....			2,125,000



## WHITEFISH DISTRIBUTION.

1888.			
May 23.....	Massawippi.....	Stanstead.....	200,000
do 24.....	Orford.....	Brome and Compton.....	200,000
do 25.....	Megantic.....	Megantic.....	100,000
do 29.....	Memphremagog.....	Stanstead and Brome.....	300,000
do 30.....	do.....	do.....	300,000
do 31.....	do.....	do.....	250,000
		Total.....	1,350,000

Many of these young fish were transported long distances by rail, and on waggons in very warm weather, but by constant agitation of the water in which they were carried, and the use of ice they were all apparently strong and healthy when deposited in their new homes. The above mentioned large number of eggs, and fry had constant attention given them during the unusually long time in hatching, and developing and on the long journeys to the several waters in which the fry were deposited. Some of the lakes which were almost inaccessible caused a greater expenditure than usual, but the instructions given by the superintendent to carry out all work connected with the hatchery as economically as possible were duly attended to, and it will be found that the expenses were not unnecessary or exorbitant.

*Increase of Fish.*

I have made enquiries regarding the opinions of fishermen as to the result produced in the various waters in which salmon-trout and whitefish fry have been deposited, and from reports which I have received, both written and verbal, the conclusion is that salmon-trout and bass are increasing in the waters of Lakes Memphremagog, Orford and Megantic. The whitefish have been seen in large numbers, and appear to be growing satisfactorily wherever they have been placed, and that within a few years fish food in these Eastern Townships will be much more abundant. To substantiate the foregoing conclusions I have forwarded to your Superintendent the written opinions of a large number of old fishermen residing near the shores of Memphremagog who are good practical judges respecting this matter. I have also received reports from other lakes in which small fish have been placed, and they are all confirmative of the success of this hatchery in its operations. I have, however, confined the certificates to a great extent to the effect that our establishment has had upon Lake Memphremagog, on account of its being the most important body of water in the Eastern Townships, in which fry have been placed, in fact being as large as all the others combined.

From the foregoing it may be safely concluded that the efforts of the Department of Fisheries have been successful in increasing the numbers of salmon-trout, bass, and whitefish in the various waters of this portion of the Province of Quebec, through the work of the Magog Hatchery.

I may further state that the hatchery, building and machinery are all in good order and condition, and that no repairs are necessary the present season.

All of which is respectfully submitted,

A. H. MOORE,

*Officer in charge of Magog Hatchery.*



## 11.—NEWCASTLE FISH HATCHERY.

### PROVINCE OF ONTARIO.

*Report of the Officer in Charge of the Newcastle Hatchery for the year 1888.*

I have the honor herewith to submit my annual report upon the fish breeding operations connected with the Newcastle Hatchery during the past year.

The number of fry and semi-hatched eggs distributed from this establishment throughout Ontario and the Provinces of the Dominion in 1888 was, far in excess of the previous year; and the work was very satisfactorily carried out notwithstanding the unusually warm weather which prevailed last spring and the long distances some of the fish had to be carried.

The eggs hatched later last year than usual, owing to the steady cold weather and the low temperature of the water in the winter months. This necessitated keeping the young fish in the tanks a longer period than usual, the last of them were not put out until about the 12th of July. The weather being very warm then, greater care and attention was required to safely convey them to their destinations.

The following schedule will show the numbers and kinds of fish planted in the lakes and other waters of Ontario last spring, also the quantities of eyed eggs shipped to hatcheries in the Maritime Provinces.

A statement of the number and kinds of fry distributed from the Newcastle Fish Hatchery spring of 1888;

#### *Whitefish Fry.*

Belleville, Bay of Quinté.....	400,000
Toronto, Lake Ontario.....	300,000
Orillia, Lake Couchiching.....	300,000
Barrie, Lake Simcoe.....	200,000
Newcastle, Lake Ontario.....	500,000
Cobourg do.....	200,000
North of Gananoque, South Lake.....	50,000
do Delta Lake.....	50,000
do Charleston Lake.....	100,000
Eyed Eggs at the point of hatching sent to Ottawa Museum.....	600,000
<b>Total.....</b>	<b>2,700,000</b>

#### *Salmon Trout Fry.*

North Riding of Hastings, Lake Coli.....	25,000
do Lake Long.....	25,000
do Lake L'Amable.....	25,000
do Lake Rock.....	25,000
do Lake Wolf.....	25,000
do Lake Riddles.....	25,000
do Lake Eagan.....	25,000
do Lake Sweets.....	25,000
Muskoka Township, Lake Clearwater.....	100,000
Campbellford, Crow Bay.....	100,000
Toronto, Lake Ontario.....	600,000
Newcastle do.....	1,000,000
Whitby do.....	100,000
Cobourg do.....	500,000
Barrie, Lake Simcoe.....	100,000
Orillia, Lake Couchiching.....	100,000
Belleville, Bay of Quinte.....	300,000
Farra, Lake Arron.....	100,000

North of Gananoque, Lake Singleton .....	75,000
do Lake Charleston.....	75,000
Pictou, Lake Ontario.....	100,000
Lindsay District, Stoney and Otter Lakes .....	200,000
Thornberry, Georgian Bay.....	300,000
Irondale, Devil's Lake .....	50,000
Almonte, Taylor's Lake.....	100,000
do Watchorio Lake.....	100,000
Total trout fry.....	4,200,000
Semi-hatched eggs sent to Magog Hatchery, Quebec...	2,500,000
do do St. John " New Brunswick	1,000,000
do do Bedford " Nova Scotia....	500,000
do do Museum " Ottawa.....	40,000
Total Salmon Trout Fry and Eggs...	8,240,000

*Distribution of Speckled Trout Fry.*

Names and residence of parties who obtained speckled trout fry, spring of 1888:—

	Number of fry received.
Z. A. Lash, Toronto.....	9,000
Dr. Dean, Brighton .....	10,000
D. Nichol, Kingston .....	1,000
J. M. Scully, Berlin.....	6,000
S. K. Graham, Guelph .....	5,000
Judge Wood, Stratford.....	15,000
George Matheson, Sarnia...	5,000
W. F. Bullen, London.....	5,000
Israel Kinny, Brantford.....	4,000
David Gilmore, Trenton.....	10,000
L. H. Slaght, Waterford .....	3,000
P. J. Pilkey, Brantford.....	5,000
E. J. Burk, Campbellford.....	3,000
Wm. Eenry, Niagara Falls.....	10,000
J. D. Edgar, Toronto.....	3,000
K. Kennedy, Hobart.....	2,000
T. J. Hammond, London.....	4,000
R. Southam, London....	5,000
R. Croft Hulme, Belleville.....	4,000
J. B. Armstrong, Guelph.....	10,000
R. Wilkinson, Washington .....	10,000
S. Saunders, Barrie.....	2,000
R. H. Fraser, London.....	10,000
Government Museum, Ottawa.....	15,000
Ponds at Hatchery, Newcastle.....	10,000
Wm. McIntosh do .....	5,000
Mr. James, Clark.....	5,000
Total .....	176,000

A very large number of young bass were bred in the ponds connected with the nursery last summer, but as they absorb their sac in a very few day it was found necessary to turn them out before any orders could be received from your Depart-

ment for disposing of them elsewhere. They numbered about one million in the ponds when put out.

The following is the gross output of fry, and semi-hatched eggs of all kinds from the Newcastle hatchery during the year 1888:—

Salmon-trout fry.....	4,200,000
do eggs semi-hatched.....	4,040,000
Whitefish fry.....	2,700,000
Speckled-trout fry.....	176,000
Black bass fry.....	1,000,000
Grand total.....	<u>12,116,000</u>

#### *Demand for Trout Fry this Season.*

There are already a large number of applications for trout fry, and as the demand is increasing it would be desirable for the Department to procure fully half a million eggs this winter in order to give the applicants an opportunity of obtaining a supply. Owing to the demand far exceeding the supply in previous years a large number of applications have been held over from last season and unless a supply is obtained almost immediately many persons will be disappointed in their wants.

The trout eggs can be purchased now at a very reasonable figure in the United States, and when the fry are hatched they can be disposed of to the Canadian applicants in such a manner as will recoup the Department for the original outlay. This hatchery would in this way become a very satisfactory medium in the country, through which the numerous urgent requests made by fishing clubs, and private individuals for brook trout to keep their ponds and streams well stocked; and could be easily accomplished.

#### *Newcastle Fish Ponds.*

During the past summer the ponds in connection with this hatchery were thoroughly renovated. The sedimentary matter, which for many years had accumulated in the ponds made them shallow, its removal has both deepened and increased their area. A most satisfactory proof of their adaptability to raise black bass and trout (especially the California Rainbow Trout) has been demonstrated beyond a doubt during the past summer. Early in May last some 300 brook and California trout (yearlings, about  $4\frac{1}{2}$  inches in length) were put in one of the ponds on trial, the experiment has proved most satisfactory, as at the present time the trout are fully ten inches long, weighing from 5 to 7 ounces. As these fish will not be two years old until next spring the rapid growth they have attained in this short period gives strong evidence of the capability of these ponds to grow trout in considerable numbers in the future. It would be advisable to obtain a quantity of California trout eggs this winter and when hatched turn them into these ponds where they would find abundance of natural food. These fish are specially adapted for the warmer waters of the more cultivated portions of Ontario, and would thrive in any of the streams running into Lake Ontario, where the native trout have now become almost extinct from the fact that the temperature of the water in these streams rises too high during the summer months.

#### *Black Bass.*

A quantity of parent bass have been kept over in the ponds, but whether they will thrive in confinement during the winter cannot be definitely ascertained at present. Air holes are kept open in the ponds and food is put in daily; but they seem to remain in a dormant state and apparently do not take the food. Should this experiment of keeping parent bass through the winter for future manipulation, prove a failure, almost any desired quantity can be obtained from the Bay of Quinté in the spring months at a reasonable figure, from which millions of young fish can be hatched and distributed wherever your Department may require them.



*Supply Pond or Main Reservoir.*

The main dam which governs the supply of water for running the whole hatchery is in good order; some slight repairs were made upon it this summer at a very small expense, and it now appears durable and permanent for years to come. The raceway leading from the pond to the hatchery, was also strengthened by raising and widening the bank alongside. In fact, everything connected with the running of the hatchery is in a better state of repairs than at any previous season.

*Collecting Eggs Fall of 1888.*

The work of collecting eggs last fall was not as successful as in the previous year.

The following table will show the number of ova taken at Pigeon Island in Lake Ontario, and at Wiarton on the Georgian Bay, 1887-88:

1887.	
Pigeon Island, Lake Ontario.....	1,500,000
Warton, Georgian Bay.. .....	7,550,000
Total.....	<u>9,050,000</u>
1888.	
Pigeon Island, Lake Ontario.....	750,000
Warton, Georgian Bay.....	<u>5,050,000</u>
Total.....	<u>5,800,000</u>

This falling off in 1888 is partially owing to the rough weather experienced while collecting eggs at Pigeon Island, which did not permit of lifting the nets as often in 1888 as in 1887. This was also more particularly felt with the Wiarton operations in Colpoy's Bay, where the larger supplies of eggs are obtained.

In former years, trap net fishing was not allowed in Colpoy's Bay, but an expert in the working of pound nets was employed by the Department to catch salmon trout during the close season for supplying the Government hatcheries with eggs. Salmon trout come into the bay in search of spawning grounds previous to the 1st November, and the nets if set at this time will take large numbers, which if found to be unripe for spawning can be kept in the pounds till they freely shed their eggs. In this way previous to this year, a considerable supply of ova was easily got in the early part of November, but this year, Capt. Allan obtained a license from the Department to fish trap-nets in Colpoy's Bay during the open season from May to November, consequently the fish coming upon the breeding reefs in the bay up to the 1st November, would be largely taken in the nets, and be disposed of by him in the market. In this way, the quantity of eggs obtained from these early spawning fish, in former years, was lost for fish cultural purposes this year.

A satisfactory proof of the decrease in the run of fish at Wiarton in 1888 as against 1887, from the cause explained above, will be readily seen by examining the "Daily Statements" for the past two years, which shows that in 1887, 2,940 females were spawned, and in 1888 only 1,690; a decrease in 1888 of 1,250 females. This was wholly due to the different agreement made with Capt. Allan this year. No reflection, however, can be cast upon him, as he had a perfect right to all the fish entering his nets in the open season, by virtue of his license.

I herewith append a statement showing the daily work of collecting salmon trout eggs at Wiarton on the Georgian Bay, fall of 1888.

**A STATEMENT showing the daily operations of Collecting Salmon Trout Eggs at Wiarton, during the Season of 1888.**

Date of Lifting Nets.	No. of Nets Lifted.	Number of Fish from which Spawn was collected and liberated.		Number of Fish spawned out before entering nets, and liberated	Number of Fish found injured or dead in nets.		Number of Eggs collected.	GENERAL REMARKS.
		Males.	Females		White Fish	Salmon Trout.		
Nov. 1...	...	...	...	...	...	...	...	Arrived at Wiarton, with men, 4.30 p.m. Capt. Allan had not completed 3rd net, owing to rough weather; no fish in nets; blowing hard.
do 2...	...	...	...	...	...	...	...	Blowing hard and raining all day.
do 3...	...	...	...	...	...	...	...	Fine weather; Capt. drove 15 stakes for net No. 3
do 4...	...	...	...	...	...	...	...	Blowing hard; intended going down to inspect nets, but water too rough to go in tug.
do 5...	2	25	125	12	5	17	400,000	Weather very fine; upwards of 500 fish in nets; Allan will complete No. 3 net this p.m. if weather remains favorable.
do 6...	...	...	...	...	...	...	...	Did not lift; fish not ripe; No. 3 net completed.
do 7...	2	48	186	17	3	19	600,000	Weather fine; guardians saw 3 men about to take fish from nets, but on seeing them they rowed away quickly
do 8...	...	...	...	...	...	...	...	Blowing a gale and raining all day; could not lift.
do 9...	...	...	...	...	...	...	...	Blowing very fresh; sea too high to attempt to lift nets; raw and cold.
do 10...	3	60	210	23	5	14	700,000	Raining; very few fish in 3rd net; guardians have not seen any poaching.
do 11...	...	...	...	...	...	...	...	Blowing and raining; slight fall of snow in afternoon.
do 12...	2	47	190	37	2	21	650,000	Guardians report no poaching going on.
do 13...	...	...	...	...	...	...	...	Fine weather; fish in nets not ripe for spawning.
do 14...	2	37	120	41	...	17	500,000	Warm, but windy; not nearly as many fish in nets as at this date last fall.
do 15...	1	15	60	27	1	15	200,000	Fine warm day; the "Gravelly" Point net is the only one that is of much account this year.
do 16...	1	35	80	31	...	12	300,000	Snowing; only a small number of fish in the nets.
do 17...	2	10	30	20	...	11	100,000	Fish not ripe; 2 inches snow fell; cold and freezing.
do 18...	...	...	...	...	...	...	...	Cold and snowing most of day.
do 19...	2	57	187	*69	2	16	500,000	*A large proportion of these spawned fish had previously been liberated, but found their way back into the nets; scarcity of small fish.
do 20...	...	...	...	...	...	...	...	Cold and clear, 18°; necessary to take extra precautions with eggs, to keep from freezing while lifting nets and spawning fish.
do 21...	3	41	91	37	1	11	200,000	Freezing hard, 2° below zero; men suffered intense cold.
do 22...	...	...	...	...	...	...	...	Left Newcastle for Wiarton.
do 23...	2	31	112	39	...	14	250,000	Bad lookout for getting many more eggs; only a few fish in nets; very cold lifting and spawning.
do 24...	...	...	...	...	...	...	...	Blowing hard and freezing; could not lift on this account.
do 25...	...	...	...	...	...	...	...	Snowing and freezing.
do 26...	...	...	...	...	...	...	...	Too rough to lift; blowing a gale of wind.

**A STATEMENT showing the daily operations of Collecting Salmon Trout Eggs at Wiarton, during the Season of 1888—Concluded.**

Date of Lifting Nets.	No. of Nets Lifted.	Number of Fish from which spawn was collected and liberated.		Number of Fish spawned cut before entering nets, and liberated.	Number of Fish found injured or dead in nets.		Number of Eggs collected	GENERAL REMARKS.
		Males	Females		White Fish.	Salmon Trout.		
do 27...	2	41	124	31	2	16	250,000	Small run of fresh fish in nets; snowing; could not lift in morning, but got out to nets in afternoon.
do 28...	2	47	72	47	4	22	150,000	Fish left in nets not ripe. Snowing; warmer weather.
do 29...	2	41	103	39	10	19	200,000	Freezing; intend leaving for home Monday, a.m.; season for collecting eggs is over.
Dec. 1...	2	41	103	39	10	19	200,000	
.....		535	1,690	470	35	224	5,050,000	

No. of times nets were lifted, fall of 1888, 14.

No. of salmon trout eggs collected, Pigeon Island, Lake Ontario.....	750,000
do do Wiarton, Colpoys Bay, Georgian Bay..	5,050,000

Total number collected, fall of 1888.....	5,800,000
---	-----------

More extensive operations will be required at the Georgian Bay in future, in order to collect a sufficient supply of salmon-trout eggs for the Newcastle Hatchery and establishments in the Lower Provinces. For several years past large supplies of various kinds of fish eggs have been shipped from the parent establishment at Newcastle to the Magog, St. John and Bedford Hatcheries in the Lower Provinces. These consignments are not forwarded from here, until just before hatching time, therefore great care and extra labor and expense is required at Newcastle during the autumn and winter months to keep the eggs in good condition until the time of shipment. In fact, the greater part of the responsibility and success of these hatcheries in the Maritime Provinces now falls upon the Newcastle establishment, and in order to collect a full supply of ova for all these nurseries it will be absolutely necessary to provide all requisite means for procuring the parent fish. The stations, hitherto, fished at Wiarton will be found inadequate. More extensive fishing grounds are to be had in the vicinity of Hay, White Cloud and Griffith Islands, where the salmon-trout are known to spawn in very large numbers. The grounds referred to, I believe, are the property of the Indian Department. I am informed by Chief McGregor, who is the head of the tribe, that no objections would be raised to the setting of three or four pound nets on their reserve for the purpose of collecting eggs for the Government. I would therefore, urge upon the Department the necessity that exists for entering into some negotiations in regard to collecting salmon-trout eggs in the neighborhood of these islands for next year's operations.

*Condition of Eggs in Hatchery.*

Owing to the unusually open winter, and the many rain storms which prevailed during the month of December, the water has been kept muddy, and the sediment which is so often deposited upon the eggs in the hatchery from the above causes gives a great deal of extra work in the nursery, and has a serious effect upon them at the season of the year just when the embryo is forming. The continuous



washing and sprinkling of the eggs has a tendency to addle and kill them. This, however, is unavoidable, as the action of the mud continually depositing upon the ova would eventually suffocate them, if it were not washed off. I am of the opinion, that the percentage of fry hatched next spring will not be quite as large as during the past two or three years, owing to the reasons given above, but this cannot be definitely decided for some little time yet.

CHAS. WILMOT,

*Officer in Charge Newcastle Hatchery.*

## 12.—SANDWICH HATCHERY.

PROVINCE OF ONTARIO.

*Report of the Officer in Charge of the Sandwich Hatchery for 1888.*

I have the honor to submit a report of the doings connected with the Sandwich Fish Hatchery for the past year.

### *Whitefish Distribution.*

By the report of last year it will be seen that there were gathered and placed in good condition in the hatchery 50,000,000 whitefish eggs, out of which were hatched and placed in the rivers and lakes 42,000,000 young fish. Below will be found the places at which they were placed, together with the numbers:—

Point Edward, Lake Huron.....	2,000,000
River St. Clair.....	1,000,000
Lake St. Clair.....	2,000,000
Peach Island.....	2,000,000
Fighting Island.....	2,000,000
Stoney Island.....	2,000,000
Bois Blanc Island.....	2,000,000
Pigeon Bay, Lake Erie.....	2,000,000
Bar Point, Lake Erie.....	2,000,000
Colchester, Lake Erie.....	1,000,000
Port Stanley, Lake Erie.....	1,000,000
Port Dover, Lake Erie.....	1,000,000
Hamilton, Lake Ontario.....	1,500,000
Niagara, Lake Ontario.....	1,500,000
Meaford, Georgian Bay.....	1,000,000
Thornbury, Georgian Bay.....	1,000,000
Magog (Advanced eggs).....	2,000,000
Newcastle (Advanced eggs).....	3,000,000
Bedford (Advanced eggs).....	3,000,000
St. John's (Advanced eggs).....	3,000,000
In river at Hatchery.....	6,000,000
<b>Total White-fish.....</b>	<b>42,000,000</b>

### *Lake Pickerel (Doré) "Lucioperca."*

After having completed this part of my work with the white-fish, I made the house ready to receive the eggs of the pickerel or doré, of which I gathered 35,000,000 from four grounds, as follows:—

Wees Bros., Lake Huron.....	9,000,000
Loiseau's, Lake Huron.....	8,000,000
Hitchcock & Stead, Lake Huron.....	12,000,000
Solomon's River, St. Clair.....	6,000,000
<b>Total.....</b>	<b>35,000,000</b>

From these eggs we had very good success and hatched out 25,000,000 young pickerel, which were planted in the following places:—

Point Edward, Lake Huron.....	2,000,000
River St. Clair.....	1,000,000
Lake St. Clair.....	2,000,000
Peach Island.....	1,000,000
Fighting Island.....	1,000,000
Stoney Island.....	1,000,000
Bois Blanc Island.....	1,000,000
Pigeon Bay, Lake Erie.....	1,000,000
Colchester, Lake Erie.....	1,000,000
Kingsville, Lake Erie.....	1,000,000
Leamington, Lake Erie.....	1,000,000
Pelee Island, Lake Erie.....	1,000,000
Bar Point, Lake Erie.....	1,000,000
In River at Hatchery.....	10,000,000
<b>Total.....</b>	<b>25,000,000</b>

I might state that at the different fishing stations where I have been, the fishermen are unanimously satisfied that this hatchery has been a principal cause for the greatly increased supplies of pickerel which are now being caught. This yellow pickerel, is a fish that was rarely caught a few years ago in the places where we are now planting them, but they are now caught of very fair size, and are getting quite plentiful, and also more valuable as the demand in the market for them is increasing.

Two years ago, a wind-mill for pumping water, was put up under instructions of the Department, near Leageair's in Lake Huron. The supply of fresh water thus obtained has proved a great help in the preservation and safe-keeping of the parent pickerel during the spawning season. This wind-mill and pump having proved so successful, I would ask from the Department instructions to place another on Wees' ground, as I feel satisfied the results would repay the small expenditure it would cost.

#### *Collecting Whitefish Ova.*

The number of whitefish eggs collected this fall was a great deal larger than of any former year, but from unlooked for causes the quantity of sound eggs will be less than usual. The reason of this must be attributed to peculiar causes:—

With the earlier run of whitefish, from the effects of the continued warm weather last fall, some disease set in among them, which caused a great number of those which had been caught to die in the pens and also made a great quantity of the ova to turn bad, when as many as 15,000,000 had to be thrown away. Notwithstanding this bad luck, there will be a very fair supply of eggs in the hatchery. The following table will show the numbers that were placed in the incubators; and the places where they were got:—

Bois Blanc Island.....	12,000,000
Stoney Island.....	12,000,000
Fighting Island.....	16,000,000
<b>Total.....</b>	<b>40,000,000</b>

#### *Increased catch of white-fish in 1888.*

The catch of whitefish this fall in, and throughout, this section, has been something enormous. The "run" began a good deal earlier than usual and the weather continued very mild, and warm throughout the whole fishing season. The fishermen

all along the whole line of country, where the planting of young fish has been done from this hatchery, some of whom at one time refused to recognize the benefits of fish culture, are all now loud in praising the Sandwich Fish Hatchery for the good work which it has done. To show how very large the catch of whitefish has been this year I will just quote the number of pounds of fish caught at one station in Lake St. Clair, in order to compare it with that of last year. At this station last year with four nets there were caught 5,404 pounds; at the same station this year with three nets 21,835 pounds were taken. At other fishing stations in the same lake the catch was equally as large—in fact the catch was so large that the Detroit fish market was over-stocked with these fish. Last year the market price of whitefish in Detroit was from 7c. to 8c. per pound, whereas this year it is very difficult to get more than 5 cents per pound. I cannot say as much for the catch at the Bois Blanc Island Fishery this season, although it has always been considered a great fishing station. Westerly winds prevailed almost all the time through the season, and the water, in consequence, was shallow and was very much like a low tide. The fish that were caught here were much smaller than those of former years.

#### *Enlargement of the Hatchery.*

I might mention in this report the almost absolute necessity of having more hatching room in the hatchery for nearly every branch of the culture of fish. We need a great deal more tank room than we have, but cannot make the room without making use of the private apartments of my family—which is already small enough for any degree of comfort. This fact I have before pointed out in my previous reports and I think it would be highly advisable for the Department to build a dwelling for the officer in charge of this hatchery, and then the whole hatchery could be turned into use for the purpose for which it was built.

Very satisfactory accounts are to be found in a number of letters, hereto appended, from fishermen, and others, showing the undoubted success of this hatchery, and of the greatly increased supplies of whitefish and pickerel in this section of the country. Statements made by the fishermen themselves, clearly show that this improvement in the fisheries is very largely due to the great number of young fry which have been bred and turned out from this Sandwich Hatchery. These evidences in favor of the work performed at this establishment should be sufficient to induce the Fishery Department to enlarge the hatching facilities of the building to its greatest capacity.

This report is respectfully submitted.

WILLIAM PARKER,

*Officer in Charge Sandwich Hatchery.*

**NOTE.**—The letters above referred to from fishermen and others will be found in the general report under "Practical Results from Artificial Fish-Breeding."



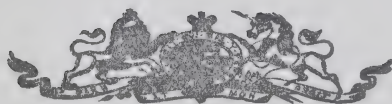


REPORT  
ON THE  
FISHERIES PROTECTION SERVICE  
OF  
CANADA,  
1888.

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*Printed by Order of Parliament.*

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OTTAWA:  
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1888.





*To His Excellency the Right Honorable LORD STANLEY OF PRESTON, Governor General  
of Canada, &c., &c.*

**MAY IT PLEASE YOUR EXCELLENCY:**

The undersigned has the honor to present to Your Excellency the Report of  
the Fisheries Protection Service for the year ending 31st December, 1888.

All of which is respectfully submitted.

**CHARLES H. TUPPER,**  
*Minister of Marine and Fisheries.*

Ottawa, 21st January, 1889.



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# REPORT

## OF THE

# FISHERIES PROTECTION SERVICE

## OF

# CANADA,

## DURING THE SEASON OF 1888.

To the Honorable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—I have the honor to submit a report of the operations of the Fisheries Protection Vessels, for the season of 1888.

The steamers and sailing vessels composing the fleet, consisted of the steamers "Acadia," Lt. Gordon, R.N.; "La Canadienne," Commander Wakeham; "Dream," Capt. Pratt; and schooners "Advance," Captain Knowlton; "Critic," Capt. McLaren; "C. H. Tupper," Capt. Quigley; "C. J. Brydges," Capt. Pouliot; "Vigilant," Capt. Lorway.

The table which follows gives the number of hours which the several vessels were under steam or sail, the miles run, the number of boarding visits to fishing vessels, the date which each vessel was in commission, and the locality in which they were stationed.

Cruisers.	Number of Hours Running.	Number of Miles.	Number of Boarding Visits.	Dates in Commission.	Where Cruising.
Steamer "Acadia" .....	1,013	8,799	40	9th June to 16th Oct.	Gulf St. Lawrence.
do "La Canadienne" .....	Not given.	Not given.	20	15th May to 28th Oct.	do
do "Dream" .....	1,013	4,995	391	Whole year .....	Bay of Fundy.
Schooner "Advance" .....	981	Not given.	102	4th June to 25th Oct.	Off Eastern Coast, N.S.
do "Critic" .....	1,655	do	136	5th June to 1st Oct.	Off P.E.I. Coast.
do "C. H. Tupper" .....	911	do	37	15th June to 15th Oct.	Off North Side P.E.I. and Miramichi Bay.
do "C. J. Brydges" .....	1,186	do	81	13th June to 13th Oct.	In North Bay, P.E.I....
do "Vigilant" .....	1,232	do	149	2nd June to 28th Nov.	do and off C. Breton Coast.
Total .....	7,991	.....	956		

A statement of the expenditure in connection with the service is also submitted, which shows the total cost to have been \$77,102, out of an appropriation of \$125,000 voted by Parliament for this service.

STATEMENT of Expenditure in connection with Fisheries Protection Service for the Year ended 31st December, 1888.

STEAMER "ACADIA."

Service.	Amount.	Total.
	\$ cts.	\$ cts.
Wages of officers and men.....	6,416 94	
Provisions.....	2,272 10	
New steam furnaces and fittings .....	7,665 22	
Coal .....	3,279 82	
Miscellaneous expenditure .....	4,327 71	
		23,861 79

STEAMER "LA CANADIENNE."

Wages of officers and men.....	7,519 10	
Provisions.....	3,521 64	
Miscellaneous expenditure .....	6,192 77	
		17,233 51

STEAMER "CRUISER."

Cost of steamer .....	} 5,000 00	5,000 00
Maintenance charged to fisheries, Ontario .....		

STEAMER "DREAM."

Charter of vessel, 15th December, 1887, to 15th September, 1888. ....	2,700 00	
Wages of officers and men.....	2,699 13	
Provisions .....	747 31	
Miscellaneous expenditure .....	884 82	
		7,031 46

SCHOONER "ADVANCE."

Charter of vessel, 4th June to 23rd October, 1888.....	1,390 00	
Wages of officers and men.....	1,926 56	
Provisions .....	788 44	
Miscellaneous expenditure.....	267 12	
		4,372 12

SCHOONER "C. J. BRYDGES."

Charter of vessel, 13th June to 13th October, 1888 .....	1,040 00	
Wages of officers and men.....	1,764 01	
Provisions .....	928 19	
Miscellaneous expenditure.....	171 44	
		3,903 64



## STATEMENT of Expenditure in connection with Fish. Protection Service—Con-

## SCHOONER "CRITIC."

Service.	Amount.	Total.
	\$ cts.	\$ cts.
Charter of vessel, 5th June to 1st October, 1888 .....	1,013 99	
Wages of officers and men.....	1,373 06	
Provisions .....	459 68	
Miscellaneous expenditure.....	188 16	
		2,035 49

## SCHOONER "CRUSOE."

Charter of vessel, 3rd October to 15th November, 1888 .....	88 00	
Wages of officers and men.....	213 60	
Provisions .....	89 65	
		421 25

## SCHOONER "C. H. TUPPER."

Charter of vessel, 15th June to 15th October, 1888 .....	1,200 00	
Wages of officers and men.....	1,9 8 37	
Provisions .....	676 72	
Miscellaneous expenditure .....	436 48	
		4,231 57

## SCHOONER "VIGILANT."

Wages of officers and men.....	3,753 48	
Provisions .....	1,214 46	
Miscellaneous expenditure.....	1,545 42	
		6,513 36

## GENERAL ACCOUNT.

Miscellaneous expenditure.....		1,498 79
Total.....		77,102 98

The following additional instructions were issued to officers commanding the cruisers :—

OTTAWA, 21st May, 1888.

SIR,—In the performance of the duties intrusted to you for the present year, you will be guided in all points, not specially mentioned therein, by the instructions contained in letters from this Department, dated respectively the 16th March, 1886, and the 16th April, 1887.

On the 15th February, 1888, the draft of a new Fishery Treaty was signed at Washington by representatives of the Government of Great Britain and the United States, and at the same time an arrangement was made to provide for a *modus vivendi*, which is to operate for a limited period pending the final ratification or rejection of the treaty. A copy of this is inclosed herewith for your information.

Under this *modus vivendi* and until further instructions, fishing vessels of the United States are to be allowed to purchase bait, ice, seines, lines and all other supplies and outfits, to tranship their catch, and to ship crews in ports of Canada and Newfoundland, upon procuring an annual license therefor, which license may be obtained from any Collector of Customs at any port in Canada and Newfoundland, upon the payment of the fee of \$1.50 per ton of the vessel's registered tonnage.

You will, therefore, be careful in no way to hinder the access to Canadian ports of any United States' fishing vessel whose master or owner declares his intention of procuring such license, nor to interfere with any United States' fishing vessel whose master or owner produces such license, in so far as the carrying out of the purposes of the license are concerned.

You will observe, however, that the possession of this license gives no right to the holder thereof, to fish or prepare to fish in Canadian waters, or to violate any of the laws of Canada, and to do aught but carry out the objects for which the license is given.

You will also notice that United States' fishing vessels which enter Canadian bays and harbors for any of the four purposes mentioned in article 1 of the Convention of 20th October, 1818, are not to be required to enter or clear at the Customs, provided they do not remain therein longer than 24 hours, and do not hold any communication with the shore.

These are the only modifications which are to be observed in carrying out the instructions previously sent to you, and under which you acted during the season of 1887.

In commending the efficiency and discretion which characterized your services during the past year, I have only further to express the desire that you will continue to perform the delicate and responsible duties entrusted to you in a similar spirit of discrimination, forbearance and uniform courtesy, which is in every respect compatible with the due and proper maintenance of the just rights of the Government of Canada and Canadian fishermen.

JOHN TILTON,  
*For Minister of Marine and Fisheries.*

The season has been an uneventful one, the better understanding on the part of the masters of United States' fishing vessels, as to just what rights they had in Canadian ports; the familiarity of the captains of cruisers with their duties, together with the issue of licenses under the *modus vivendi* of the Treaty of Washington, all tended to harmonize the work of the protection vessels.

The following is the form of license, which was issued under authority of Schedule B of an Act of Parliament intituled "The Treaty of Washington Act, 1888":—

#### LICENSE TO UNITED STATES FISHING VESSELS.

(Name) \_\_\_\_\_, (Master or Owner) \_\_\_\_\_, of the United States fishing vessel \_\_\_\_\_, \_\_\_\_\_ tons register, of \_\_\_\_\_, having paid to the undersigned, Collector of Customs at the port of \_\_\_\_\_, the sum of \_\_\_\_\_, the privilege is hereby granted to said fishing vessel to enter the bays and harbors of the Atlantic coasts of Canada and Newfoundland, for the purchase of bait, ice, seines, lines and all other supplies and outfits, and the transhipment of catch, and shipping of crews.

This license shall continue in force for one year from the date thereof and is issued in pursuance of the Act of the Parliament of Canada of 1888, entitled "An Act respecting a certain Treaty between Her Britannic Majesty and the President of the United States," and in pursuance of agreement between the Government of Canada and the Government of Newfoundland.

This license, while conferring the above mentioned privileges does not dispense

with a due observance by the holder, or any other person, of the laws of Canada and Newfoundland.

Dated this  
A. D. 1888.

day of

*Minister of Marine and Fisheries for Canada.*

Collector of Customs,  
at the Port of

Thirty-six of these licenses were issued through the Collectors of Customs at ports in the Maritime Provinces, to the following fishing vessels, the amount collected in each case being as stated:—

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Amount of Fee.
				\$ cts.
Bertha May.....	Gloucester, Mass. ....	75	Port Hawkesbury.....	112 50
Louise Polleys.....	do .....	69	Yarmouth.....	103 50
Annie C. Hall.....	do .....	84	Canso .....	126 00
Plymouth Rock.....	do .....	92	do .....	138 00
Martha A. Bradley.....	do .....	73	do .....	109 50
Willie M. Stevens.....	do .....	76	do .....	114 00
Flora Dilloway.....	do .....	77	do .....	115 50
Gladstone.....	do .....	97	Arichat, C. B.....	145 50
Laura Sayward.....	do .....	64	Yarmouth.....	96 00
Hattie B. West.....	do .....	53	do .....	79 50
Alert.....	do .....	87	Port Hood.....	130 50
Bessie M. Wells.....	do .....	92	do .....	138 00
Gertie May.....	Portland, Me.....	97	Port Mulgrave.....	145 50
Octavia A. Dow.....	Belfast, Me.....	38	Yarmouth.....	57 00
Chester R. Lawrence.....	Gloucester, Mass.....	86	Liverpool.....	129 00
Bounding Billow.....	do .....	54	Shelburne.....	81 00
Henry L. Philips.....	do .....	78	Yarmouth.....	114 00
Addie Emma.....	do .....	35	Barrington.....	52 50
Maud M. Storey.....	do .....	72	Liverpool.....	103 00
Nellie May.....	Portland, Me.....	65	Barrington.....	97 50
John Somes.....	do .....	62	Yarmouth.....	93 00
Edward Trevo.....	Gloucester, Mass.....	88	Canso.....	132 00
Oressa.....	do .....	82	do .....	123 00
Grace L. Fears.....	do .....	84	do .....	126 00
Lizzie J. Greenleaf.....	do .....	88	do .....	132 00
A. T. Gifford.....	do .....	81	do .....	121 50
Margaret.....	do .....	44	Yarmouth.....	66 00
Gracie C. Young.....	Rockland, Me.....	83	do .....	124 50
Bertha M. Miller.....	Gloucester, Mass.....	42	Shelburne.....	63 00
Willie G.....	Southport, Me.....	56	Halifax.....	84 00
Helen H. Powers.....	Salem, Mass.....	17	Yarmouth.....	25 50
Cynosure.....	Booth Bay, Me.....	69	Barrington.....	103 50
Cora Louise.....	do .....	74	Arichat, C. B.....	111 00
Sarah B. Putnam.....	Salem and Beverly.....	76	do .....	114 00
Starry Flag.....	Gloucester, Mass.....	56	Shelburne.....	84 00
A. K. Damon.....	Provincetown, Mass.....	90	Baddeck.....	135 00
Total.....				3,831 00

It will be seen from this return that the aggregate sum collected was but \$3,831, this was doubtless owing to the small number of United States' fishing vessels, in the Gulf during the season, and of this number many would have taken out licenses, had they been able to obtain fares of fish.



It was agreed with the Government of Newfoundland, the Legislature having adopted the Treaty of Washington, thus giving effect to the "*Modus vivendi*",—that licenses issued to United States' fishing vessels by that colony should be recognized in Canada, and those issued by Canada should be recognized in Newfoundland. The Department is not yet advised of the number of licenses issued by the Government of Newfoundland, but it must be considerably in excess of that issued under the authority of the Dominion Government since the privilege of purchasing bait was freely taken advantage of by a large proportion of the fleet of United States fishing vessels engaged in the deep sea fishing on the banks.

Under the head of *Movements of Mackerel*, page 11, interesting data are given in Lieut. Gordon's report, with reference to his observations of the migration of these fish in the Gulf during the past season. Mackerel were at times seen in large numbers in the Gulf, but they were so wild and scattered that very few of the vessels took anything like full fares.

The total number of United States' fishing vessels in the Gulf was *eighty-three*, which is less than was ever known to be there in any previous season; the catch of these vessels is reported at 10,428 barrels, as against 17,563 barrels in 1887.

The number of Canadian vessels engaged in the mackerel fishery during the past season is estimated at about 120.

The hook and line fishing inshore was carried on to a much larger extent than in former years, and to many of the fishermen engaged therein proved remunerative; the high price which they obtained for their fish compensating many of them for the paucity of their catch.

#### SEIZURE.

The only seizure during the season, was that of a small sloop rigged boat, found fishing in the Bay of Fundy near Campobello; the boat was subsequently given up to the owners, upon the payment of expenses incurred in the safe-keeping of the same.

The steamer "*Acadia*" did her work admirably during the season, and has proved well adapted to the service for which she was purchased.

The Department has again to call attention to the zeal and descretion exercised by the commanders of the several cruisers.

I have the honor to be, Sir,

Your obedient servant,

JOHN TILTON,

*Deputy Minister of Fisheries.*

## APPENDIX A.

### REPORT BY LIEUT. GORDON, R. N., IN COMMAND OF THE FISHERIES PROTECTION SERVICE FOR THE YEAR 1888.

THE OBSERVATORY, TORONTO, 17th, December 1888.

The Hon. C. H. TUPPER,  
Minister of Marine and Fisheries.

SIR,—I beg to report on the work of the Fisheries Protection Service under my command during the past summer as follows:—

The vessels forming the fleet were: The steamship "Acadia," under my own command; steamship "La Canadienne," Commander Wakeham; the schooners "Vigilant," Capt. Lorway; the "Tupper," Capt. Quigley; the "Advance," Capt. Knowlton; the "Critic," Capt. McLaren; the "Brydges," Capt. Pouliot; the steamer "Dream," Capt. Pratt.

With the exception of the "Canadienne," which under Commander Wakeham, was as usual engaged in the protection of the Gulf Fisheries on the Quebec shores, and the "Dream" which remained in the Bay of Fundy all the season; the fleet was employed in the protection of the mackerel fishery in the Gulf of St. Lawrence.

The only seizure made during the season was that of an open sloop rigged boat, fifteen feet long, the owner of which pleaded guilty to fishing within the limit. This boat was seized by Capt. Pratt, of the "Dream," one mile south-east from Split Rock, Campobello, N.B.

The officers and men of the several vessels performed their duty most satisfactorily, the commanding officers especially exhibiting both zeal and discretion; and notwithstanding the rigid enforcement of the law, the greatest good feeling prevailed between my officers and the masters of U.S. fishing vessels, who now, that they understand the requirements of our law, willingly comply with all regulations.

It would add greatly to the convenience of foreign fishing vessels if an officer of the Customs Service was stationed at Burnt Church, N.B. The reports of vessel in Miramichi Bay are now taken by the cutter, thus limiting her usefulness as a cruiser. The U.S. mackerel fleet in Canadian waters this year consisted of eighty three vessels. One of these vessels the "Mathew B. Murray" was lost off the Cape Breton coast in November. The reports received from these vessels show that their catch amounted to a little over ten thousand barrels, and as the total catch by the New England fleet this year was forty thousand barrels, one-fourth of the catch was taken north of Cape Sable, N.S.

It is impossible yet to state what the catch by Canadians has been, but it will be far below the average of recent years, probably not exceeding 40 per cent. of last year's catch, though the high prices obtained compensate for the deficiency to a great extent. Much of the Gulf boat catch was exported fresh, a method of disposing of the fish which is very advantageous to our boat fishermen, who are not as a rule such good packers and curers as the vessel men.

#### MOVEMENTS OF THE MACKEREL.

The mackerel appeared on the Nova Scotia coast early in June. They were accompanied by a large fleet of United States seiners harassing them and thus preventing their lingering on the coast. Some large catches were made off Chedabucto Bay and the fish were followed round Scatterie to Cape North where they were lost sight of. The Bradelle and Orphan Banks were then searched and some vessels went to the Labrador, but the fish did not show up again in any quantity till late in July, when for a short time they schooled freely between Escuminac and North Point, some fair catches being then made. During the rest of the season the fish

showed fitfully, but in small schools and very wild. In September most of the fish taken were raised by tolling bait, and when the fish rose, the seine was shot round both fish and vessel, making a small catch. Canadian seiners practiced this method to some extent, and also reverted successfully at the close of the season to the old method of hook and line.

The change in the habits of the mackerel and their almost complete extinction in places they used to frequent is undeniable; and the investigation of the causes of the change is most desirable as it affects one of our most valuable inshore fisheries.

The following figures present in startling intensity the decreased productiveness of the west Atlantic mackerel fishery:—

	1885.	1886.	1887.	1888.
Catch by United States seiners	330,000	80,000	78,000	40,000
Canadian catch .....	148,450	152,292	131,653 estimated	60,000
Total product, brls....	<u>478,450</u>	<u>232,292</u>	<u>209,653</u>	<u>100,000</u>

I believe this decreased productiveness to be largely due to (1) the increased destructiveness of the means of capture; and (2) the use of these means at improper times. The whole treatment of our deep sea fisheries has been hitherto conducted on the idea that the supply of fish of every kind there, was inexhaustible.

We find the inshore fisheries of the United States depleted, and the Government of the country undertaking at great expense, the doubtful experiment of restoring these fisheries by the artificial propagation of cod and mackerel.

In all cases of the destruction of a species there must come a critical point after which the diminution will proceed with great rapidity. In regard to Canadian mackerel we are approaching this point, and if the fishery is to be maintained protective measures of some kind must shortly be taken; but in order to discuss this question intelligently, it is necessary to first say a few words, as to the habits of the mackerel.

#### THE MACKEREL.

The mackerel is a migratory, but not an anadromous fish. It first appears in the month of April off the Atlantic coast of the Southern States, and by the 25th May has usually arrived off the Nova Scotia coast, passing into the Gulf early in June. They remain off our coast till November, when they again return to deep water.

Two theories are held to account for the appearances presented by the mackerel. The one held generally by the United States authorities on the subject is that the movement is a total migration of the whole body of the mackerel from south to north, with a return migration in the fall. The other theory is that put forth by Professor Hind, that the migratory appearance is to be accounted for by the successive arrival on our coasts of fresh schools of fish, coming in later to the north, their arrival being regulated by the amelioration of the marine climate due to the advance of the seasons. He further held that each school had its particular summer habitat to which it returned annually to perform the functions of reproduction and that its winter abode was in deep water immediately contiguous to its summer haunt. He also regarded it as probable, that this fish hibernated during the winter months.

I think that the true interpretation of the observed conditions lies between the two contentions. The total migration theory is almost untenable, as failing to account for the large area over which the fish are found during the summer season, but that a certain amount of migration does take place, no one who has watched the mackerel when first arriving on our shores will deny; all fishermen agree that the schools are travelling east in the spring along the Nova Scotia shore. The later spawning of the northern mackerel is another argument against the total migration theory. It seems probable, however, that the great body of the fish leave the Gulf of St. Lawrence late in the fall, their arrival on the north-east coast of Cape Breton in October, being a well marked feature of the season's fishing, but I have received no evidence which leads me to believe that these fish retire to the south of Cape Hatteras. It



seems more reasonable to suppose that they simply withdraw to the deeper waters of the Atlantic, at the edge of the Gulf stream or to the south of the banks. The time of spawning ranges from the latter part of May on the United States coast, to the end of July in the Gulf of St. Lawrence. It varies slightly from year to year, but is always later to the north, the variation in the different years being doubtless due to the climatic conditions of the individual season.

#### THE METHODS OF CAPTURE.

The methods of capture are : (a.) hook and line ; (b.) shore haul seines ; (c.) drift nets (d) trap nets ; (e.) the purse seine.

(a.) Until the purse seine was invented almost the entire catch of mackerel was made with hook and line, the fish being raised and held by toll bait, *i. e.*, herrings, porgies, and clams ground in a mill and mixed with water to the consistency of thin porridge. This was continually thrown into the water in small quantities and the fish rising to this bait take the hooks. No serious damage was ever done to the fishery when prosecuted in this way ; first, because schools might be decimated, but were never annihilated ; second, because immature or unsaleable fish were immediately jerked back into the water, but little damaged by their adventure ; and, thirdly, because nature herself protected the fish, because they would not rise to bait, when near the spawning time, and the large catch of fish was thus made after the fish had spawned. The hook and line method is still that by which the greater part of the Canadian catch is made ; a fact to which we owe the hitherto continued productiveness of our mackerel fishery.

(b.) Shore haul seines are used to a very limited extent indeed, the places where they can be used advantageously being few and scattered.

(c.) The drift net is anchored at one end and pivots with the tide, this net is not much used in the Gulf but is largely used on the Nova Scotia coast.

(d.) Trap nets can only be used by special license, each permit applied for is considered on its own merits.

(e.) The purse seine is a large fine mesh net made out of tarred cotton twine. These nets were at first both clumsy and costly, but of late years not only has the net been made simply perfect, but the price has been put at such a figure that they have been adopted by Canadians more extensively and entirely by United States fishermen. The basis of operations for this fishery is a schooner carrying two seines and two seine boats ; the seines are called, the deep and shallow seines, the one being about 15 and the other about 10 fathoms deep.

The relation between the reduced productiveness of our mackerel fishery and the adoption of the purse seine is one of the problems now most urgently presented for solution.

In protecting a fishery, the required conditions are, first, proper means must be used for the capture of the fish ; second, these means must only be used at proper times ; and the question then arises : is the purse seine a proper means of prosecuting the fishery, when used as it now is ?

In order to prevent the harassing of the schools of unspawned fish on the United States coast, a law was passed by Congress prohibiting the landing in the United States of mackerel caught with a purse seine before 1st June in any year ; thus in practice admitting that the use of the purse seine prior to that date was liable to injure the fishery. The condition of the fish which prevails on the United States coast up to 1st June is precisely that of the Gulf of St. Lawrence up to say 20th July, and therefore this date of prohibition, which may afford adequate protection to the fish on the United States coast, affords none to those on ours. But the point is none the less established that a Government, whose ruling principle of fishery legislation has been to interfere as little as possible with the liberty of the fisherman, has definitely concluded that the purse seine, used prior to the spawning season, is injurious to the fishery.

Many United States captains admit that this net is injuring the fishery, but having capital invested in it they are averse to having it rendered worthless by legislation. Some of their more enterprising capitalists have, however, been lately increasing the destructive power of the purse seine, by the adoption of steam, instead of row boats, and by the use of steamers, instead of sailing vessels. The steam seine boat is a large whale boat with engine and boiler covered in; with this boat the 300 fathom seine can be thrown round a school of fish in an incredibly short space of time, when the seine is shot, the purse rope is brought to the winch, and the net pursed by steam in a few seconds. In calm weather also this boat can cruise away from the ship with dories in tow. The use of steam for the vessel as well as the steam launch, enables her to move about in calm weather, when the fish can best be taken, and though the additional expense, may in bad years make the venture unprofitable, with fish in any degree plentiful, the destructive power of these steam seiners and seine boats would be terrific. The objection on the ground of expense to the use of steamers does not apply to these boats, which can be taken down by many of the larger schooners carrying the necessary coal as ballast for the vessel.

Such additions to the fishing fleet not only add greatly to the destructive power of the purse seine, but they would render it almost impossible to effectually patrol our territorial waters by sailing vessels.

In Canada the opinion among those interested in the fisheries greatly preponderates in favor of the prohibition of the purse seine. It is held, and correctly so, that it is a very wasteful method of fishing. Large quantities of small or unsaleable fish, both herring and small mackerel are destroyed for the sake of a few good mackerel, a school may contain. In this particular the United States fishermen are more wasteful than Canadian, as the latter can find a market for much of the small fish which a United States seiner, at such a distance from his base of supplies, cannot handle. As an indication of the strength of Canadian opinion on this matter, of two hundred and fourteen people asked if purse seining was injurious to fishing and should be stopped, only seven declared it not injurious.

It is not only in the mackerel fishing that injury has been done; the herring bait fishing has suffered in places, and this injury reacts on the cod fishing.

The purse seine fishing is, however, not only destructive by waste of immature fish and herring, but I am convinced that to its use during the spawning season is due the present lessened productiveness of the mackerel fishery.

The mackerel, when they come first on our coast are poor and full of spawn, and but for a perverted taste which has decreed them a delicacy, would be considered unfit for food. The spawning season in our waters is not over till 20th July, and the following evidence is given to show the proportion of unspawned fish captured:—

Captain G. Nason, 25 years a master, 40 years mackereling, says all mackerel taken in Gulf prior to 1st July are killed before spawning.

Captain John S Staples, 20 years a master, 30 years mackereling, in the North Bay; before 1st July two-thirds of catch are female spawn mackerel killed before spawning.

Captain Hillier, 8 years a master, a quarter of the whole catch is made before spawning.

Captain Sydney Smith, 20 years a master, 26 years mackereling; one-fifth of whole catch in North Bay is killed before spawning.

Captain Hammond, 25 years a master, 35 years mackereling, half at least of total catch in North Bay is killed before spawning.

Captain McEachern, 7 years a master, 13 years mackereling, says half the catch is killed before spawning.

It seems safe to say that one-third of the total catch, made north of Cape Sable, N. S., is that of unspawned fish. If we examine the record catches of fish, some idea may be formed of the magnitude of the injury thus done to the fishery, in what fishermen call a good year. In 1885 the United States catch was 330,000 barrels, one-third of which was probably taken north of Cape Sable, N.S., say 110,000 barrels; to this add Canadian catch, 143,000, making, say 250,000 barrels, one-third of which, or



83,000, would be killed before spawning, and allowing 250 fish to a barrel, it means the destruction of 20,000,000 adult fish before spawning, which if left alone another month, would have produced over 500,000,000 young fry. I use these latter figures not in an exact sense, but as a definite number below which the product would not fall; and for the sake of illustrating the magnitude of the number, I may add that it represents, in round numbers, all the fry of every species which have been produced in the Dominion, by artificial propagation in the 20 years 1863-1887, at a total cost of \$404,000; thus clearly showing, how easily the unrestrained efforts of the fishermen can destroy in a few weeks what cannot be replaced. There is moreover in a year of plenty, like 1885, an excessive destruction of immature fish, because the price being low, only the higher grades can be handled profitably. It is not only by diminished catch that the injury to our mackerel fishery is manifest, but in places which they once frequented none are now taken. The Bay of Fundy, the Bay Chaleur and Gaspé Bay (Quebec) and Fox Island, N. S., are instances in point. These places still retain all the natural advantages as breeding and feeding grounds which they formerly possessed, and but for the purse seine, would be mackerel grounds to-day.

We now know that the salmon and other anadromous fishes return annually to the same spots for the reproduction of their species, and if the mackerel do not possess this instinct of locality, by what chance or freak is it that they now pass by their former haunts named above? The true answer is that the local schools belonging to these places were annihilated, and it is my opinion that the continued unrestricted use of the purse seine, means the destruction of our mackerel fishery within a few years.

#### THE BAIT FISHERIES IN THEIR RELATION TO THE COD FISHERY.

The discussion of the bait fishery involves the working out of the whole problem of the movements of the fishes, and for the final examination of this problem the data at present available is insufficient. Much may however be deduced from the knowledge we already have, and I shall endeavor, as briefly as possible, to discuss the present condition of our bait fisheries, in their relation to that greatest of all commercial food fishes, the cod; the catch of which is annually double in value that of any other of our food fishes. Canada's most important fishing interest is carried on in boats. The number of men employed in 1887 was, in vessels, 8,508 and in boats 45,568. The boat, or as it is called, the shore fishery, is thus the one, on the success or failure of which the welfare of this large number of our people depends.

It is a matter of common remark among our fishermen especially on the Atlantic coast, that cod do not now come so close to the shore, as they formerly did; and the fishing, which not many years ago, was carried on close to the shore in small boats, has now to be pursued in large boats, at distances up to ten miles from land; and notwithstanding the increase in the size of the boats, the fishery is now necessarily much more affected by unfavorable meteorological conditions.

The cod is regarded as one of the most prolific of fish and also as one of the most predatory and voracious, feeding on all smaller fishes and especially on the young of these fish.

I do not consider that we have over fished, the littoral waters of Canada, because the fishery has been for the most part hook and line work, and all that have been taken would not appreciably affect the supply of a fish of such fecundity as the cod; hence we must seek some other agency to account for the withdrawal of the cod from our shores and this we find, in the reduced supply and change in the movement, of the bait fishes.

Not only do all anadromous fishes come in to the shores to ascend the streams for the purpose of spawning, but nature has taught many others, such as the herring and the mackerel, to come in to the shore and seek the sheltered spots where they are undisturbed during the spawning season, and where under shelter of our indented



coast and in its tidal eddies, the fry find the most favorable condition for the beginning of their existence.

The cod spawn in the open sea ; the ova floating at or near the surface until the fry is hatched but they follow the anadromous and other fishes to the shore, feeding on them ; therefore anything which tends to diminish the supply of small fish near the shore injures the cod fishing.

The absolute inter-dependence existing in nature is beautifully illustrated among the fishes, you cannot injure or destroy one fishery without affecting another, and thus we see the injury to our anadromous fishes reacting on the cod.

The cod prey on the young of the alewife, salmon, trout, &c., all anadromous fish, but, perhaps, the most important of these as a bait, to bring the cod to the shore was the alewife, and the almost fabulous numbers of these fish which used to throng the estuaries of all the creeks and rivers of Nova Scotia, to ascend them to spawn, and then the young fry return to salt water in countless millions, brought and kept the cod to the shore. This vast mass of anadromous bait no longer exists, and we find the cod off shore.

In New England the destruction of anadromous fishes is complete, and from Cape Cod to the boundary line, along a coast which once swarmed with cod, the boat fishing is practically nil.

In Canada the process of injury has been slower, but always tending in the same direction. In the neighboring states public opinion has but recently awakened to the national loss they have sustained, through the lack of uniform fishery laws in the different states, and through the lax administration of those which existed ; whereby the fisheries were exposed, both to the uncontrolled rapacity of the fishermen and to the exigencies of manufacturing industries.

The sources of injury to our anadromous fishes are, first, the blocking of our streams by mill dams ; second, the deposit in the streams of masses of sawdust and other mill refuse, or the defilement thereof by refuse from manufactories ; third, the complete change in the physical condition of our rivers, arising from the deforesting and settlement of the country.

In regard to the first of these, no defence can be offered for the continuance of an obstruction in a river ; fishways and ladders should form an essential part of every dam, and these fishways should, when constructed, be inspected, to insure that they are so arranged that the manufacturer or miller cannot close them when he fears a shortage of water, and that the upper ends cannot dry out.

In regard to the second it has been held by some people that the presence of large quantities of decaying sawdust in the streams is not injurious to the fish, because it is on y decaying vegetable matter, of which there would always have been a quantity present in the natural state of the river, before the settlement of the country owing to the deposit of dead leaves, wood, &c.

That sawdust is most seriously injurious to fish life in a river must, I think, be the conclusion to which every unprejudiced person, who has examined into or thought on the subject, will arrive. The fish go up the rivers to spawn, and the healthy development of the young fry requires light, as well as suitable temperature. The transparency therefore of the water is a very important element ; water which is fouled by sawdust is rarely clear and is therefore prejudicial ; again the spots chosen by the fish, at which to lie on the bottom and emit the ova, are generally those clear gravelly spots in eddies just below rapids, and those are the very spots on which the sawdust accumulates, and the bottom is no longer clear sand or gravel, but a foul mass of decomposing vegetable matter, capable, if present in sufficient quantities of generating heat enough to emit gas. The fish are thus deprived of the most appropriate spots which they occupied for the purposes of reproduction ; and, further, supposing that under all these unfavorable circumstances a small proportion of weakly fry have struggled into existence, the waters are so charged with decaying vegetable matter that the existence of the already weakly fry is still further imperilled.

Third. The clearing away of the forest and the conversion of the land to agriculture, have greatly altered the capacity of the country for the retention of

moisture. During the forest era, rain fell, and gradually soaked its way through the soil and reached the streamlets and rivers; the supply thus remaining fairly constant, the rivers maintained a comparatively uniform flow throughout the summer, and all the conditions were most favorable for the generation and preservation of fish life.

But under the agricultural era, the country is denuded of its forests, and the farmers dig ditches to accelerate the flow of water from the land to the river, these no longer maintain the uniformity of their flow, but are alternately swollen or shrunk, as the meteorological condition of the preceding day has been stormy or fair; in this case, too, the water of the river is no longer clear, but is, during the floods, heavily freighted with earthy matters, by the erosion of the banks of the now swiftly flowing streams and from the surface drains of the farmers; and in the dry time, the sheltering trees having been taken away and the volume of the stream diminished, the water is unduly raised in temperature, so that whether swollen or shrunk, the rivers no longer present the same favorable condition, as the nursery of our fisheries which they formerly did.

The remedies for these conditions are; first, to insert fishways in all dams; second, to prevent, as far as possible the defilement of our streams by sawdust or anything else in the shape of manufacturing refuse; and, third, to maintain about the head waters of all rivers and streams an extensive growth of timber. With these remedies generally applied we may hope once more to see our rivers restocked; without them, much of the benefit arising from the work now done by artificial propagation towards re-stocking our streams is completely lost.

The stock of bait formerly supplied by the anadromous fishes, which is at present almost non-existent, may be reproduced, the work will be gradual, but to be effectual, the remedies must be generally and rigidly applied.

The baits used for cod are, mackerel, herring, squid, capelin and launce, clams are also used to some extent. Mackerel in consequence of its high price and great scarcity, cannot now be classed as a bait fish, though, formerly, it was extensively and successfully used. The herring is one of the principal baits used by our fishermen. They are plentiful in their season and always obtainable at some point on the coast. A fishing vessel can always go and seek bait, but the 45,000 shore fishermen have to wait till the bait comes to them, or have to dig clams. In this bait fishery, many fishermen claim that the use of the purse seine for mackerel has in places affected the supply of herring. The temporary scarcity which occurs in some localities could, however, be easily and cheaply met by the erection of ice houses and refrigerators, in which a considerable store of herring could be kept. The squid is largely used by our fishermen and its arrival on our coasts is anxiously looked for; this bait is also frequently obtainable on the banks in quantities. Clams are used as a sort of reserved bait by our shore fishermen: when no other bait is to be had, they will dig clams and use them. Launce and capelin are used largely in the Gulf of St. Lawrence. Each bait comes in regular sequence and the most successful bait is always the one which is in season at the time. I have already alluded to the work undertaken by the United States Government of repopulating the deserted littoral waters of the New England coast. The magnitude and questionable success of the work should be a warning to us in Canada; the condition of our fisheries is still fairly good, but the fact that our fishermen have yearly to go further to sea to make their catch, points to a retrogression. The final destruction may and should be averted, and we should therefore not only stringently enforce all laws enacted for the protection of the fisheries, but should, if necessary, legislate still further in this direction.

#### A FISHERY INTELLIGENCE BUREAU.

During the past season I was enabled, through the public spiritedness of a number of Collectors of Customs and other gentlemen, who acted as volunteer correspondents, to establish for a short time a sort of intelligence department, by which I was able to keep track of the movements of the fish. The system was that each



correspondent mailed me a daily post card, giving reports on all matters pertaining to fisheries, and if no change occurred from last report, the card is mailed all the same, stating such to be the case. The cost of the service was simply the post cards, a package of which was sent to each correspondent.

In the United States the private enterprise of those interested in fisheries, has organized a bureau, for collecting and disseminating information regarding the fisheries, but this being a private agency, the reports are only given to subscribers and correspondents. The masters of United States vessels fishing off our coasts, frequently avail themselves of the bureau reports, either by telegraphing to Boston, or by getting from the correspondent at the port in which they are a copy of the report last issued.

The cost of the extension of the system, which I adopted locally last season, so as to cover the Atlantic coasts of Canada, would be quite trifling, whilst the direct benefit to the fishermen, would be of immediate and great value. I would respectfully suggest, that the system be given a trial next season, the returns to be received and collected at Halifax. As an instance of the advantage to fishermen incident to the establishment of the bureau, take the case of a banking schooner arriving in Canso for bait; at present it is quite a common occurrence for a master to telegraph to half a dozen places and still be in doubt where he can best go for bait. Under the bureau system, he would get reliable information immediately from Halifax. Much valuable information would always be available as to the movements of the mackerel and herring, and as to the points where recent catches had been made on the banks.

But the great and ultimate benefit, of the establishment of the bureau will not be the indirect assistance given to the fisherman, so much as in the valuable mass of information which will be gathered. The careful examination and digest of the reports received, will in a short time enable us to see light through many questions, in regard to the movements of the various fishes, our knowledge of which is at present very imperfect. The knowledge thus gained would enable the Department to act more intelligently on many, at present, doubtful points, and would be of the greatest value in shaping the legislation in connection with the fisheries.

The cost of tentatively establishing this intelligence bureau, by means of volunteer correspondents and post cards, will be very small, and I would respectfully suggest that the system be tried for one season, at a cost not exceeding six hundred dollars. A weekly or semi-weekly bulletin given to the press would be issued, all paid telegrams answered, and the reports as received daily, would be mapped and all movements of the fish, would thus be seen at a glance. The bureau, if operated by an ordinarily intelligent clerk, desiring to make it a success, would, I am convinced, soon commend itself to both the Government and the people, as a valuable agency in connection with our fishing interests.

#### ON THE EXTENSION OF THE STORM SIGNAL SERVICE FOR THE BENEFIT OF FISHERMEN.

I have no means of obtaining accurate statistics as to the annual amount of loss of life among the fishermen, whilst pursuing their hazardous calling, but in the press, during the past summer I regretted to notice after nearly every gale a record of fatal disaster.

At places such as Percé (Que.) where our storm signal system has been in operation for a number of years, the fishermen have learned, by experience, to give heed to the warnings, having found them in general very reliable.

There is no room for doubt that the storm signal system annually saves many lives, and the knowledge of this fact renders it very desirable that the benefits of the system should be extended to all points occupied by fishermen, where the necessary telegraphic means are at hand for its efficient working.

In New Brunswick, taking the Counties of Gloucester, Northumberland and Kent, covering the south shore of the Bay Chaleur and the Gulf coast from Miscou to Cocagne River, there is not a single storm signal at any place where it is of use



to fishermen, the only one in existence there being at Chatham, miles up the Miramichi River.

There are employed in the fisheries on the coasts above named 2,265 boats, carrying 5,147 men, to whom the extension of the storm signal system would be of the greatest value. At Souris, P. E. I., the want of storm warnings is also much felt; there are frequently there for shelter as many as one hundred vessels, and sometimes double that number; there are also in this neighborhood 253 boats, carrying 674 men.

Ingonish, C. B., and Canso, in Guysboro', N. S., are also extensive boat harbors' where storm signals would be most useful.

I would therefore propose that storm signal masts should be erected at the following places:—(1.) Point Escuminac; (2.) Tracadie; (3.) Shippegan; (4.) Caraguet; (5.) Souris; (6.) Ingonish; (7.) Canso.

Telegraphic communication is now established with all these places and the work can, I believe, be performed efficiently.

The estimate of cost is, construction account—7 masts and gear at \$100, \$700.

The maintenance account will be nine months' salary, at \$5 per month to agent, \$45, and \$5 for oil and expenses, or for the seven stations at \$50 each a charge of \$350 per annum additional to the meteorological service vote. As this is the only means of benefitting the fishermen from the expenditure on the meteorological service, I would respectfully urge it on your favorable consideration.

#### ON THE LICENSING OR MARKING OF CANADIAN FISHING VESSELS.

I beg to call your attention to the difficulty which our police vessels find in distinguishing at any little distance, the difference between Canadian and United States fishing vessels. In my report for 1887 I drew particular attention to this point and suggested that the difficulty might be overcome either by licensing or otherwise controlling our fishing vessels, and requiring them to carry when on a fishing voyage, some distinguishing mark which could be easily made out at a distance. This would add considerably to the efficiency of the patrol of our waters and the cost to the fishermen of putting, say, a diagonal cross of brown tanned cotton on both sides of his mainsail would be quite trivial. The lack of some distinguishing mark of this kind, gives rise frequently to unfounded rumors of fishing within the limits by foreign vessels, which, when investigated, prove to be Canadian.

I have the honor to be, Sir,

Your obedient servant,

ANDREW R. GORDON, *Lieut., R.N.,*  
*Commanding Fisheries Protection Service.*

#### FISHERIES PROTECTION SCHOONER "VIGILANT."

Lieut. GORDON, R.N.,  
Commanding Fisheries Protection Service.

SIR,—I beg leave to tender a synopsis of the work done during the past season by the Fisheries Protection schooner "Vigilant," under my command.

By instructions received from the Department of Fisheries, I took command of the "Vigilant" on 15th May, and proceeded at once to refit and prepare for sea.

1st June sailed for Yarmouth, N.S., and thence followed the fleet of United States' mackerel seiners eastward to Chedabucto Bay and round Cape Breton to Prince Edward Island, where, from 21st June to 12th July, we cruised between Malpèque and Souris.

From 12th to 17th July in Pictou, fitting new sails. On the latter date, owing to ill-health, I obtained sick leave, and Chief Officer Hughes was placed in temporary command of the vessel. Mr. Hughes reports as follows:—

18th July to 29th August cruising on north shore of Prince Edward Island, between these dates only observed mackerel schooling twice, when about sixteen sail of seiners, principally United States, made small catches from five to eight miles off shore, though the shore boats occasionally did well with hook and line.

31st August, I resumed command of the ship, and as per your instructions, sailed on a cruise of observation along the Nova Scotia coast, and have to report thereon as follows:—

Cow Bay, B.C., 4th September.—Cod-fishing has been good. No mackerel taken to date, people hold that in consequence of protection to inshore fishery. The halibut are again striking in shore.

Louisburg, 6th September.—Very fair catch of cod this season but fish up to nine miles off shore, all hand liners, trawlers objected to, as fouling the ground with dead fish.

Liscomb, 8th September.—Good catch of cod early in the season, but latterly fish are small. The herring are reported not to strike this part of the coast as formerly; this used to be one of the best harbors for herring, but it is claimed that the sawdust deposited in the harbor has injured this fishery.

Isaac's Harbor, 11th September.—Codfish not so good as last year, was best in June; bait scarce since then; fish as much as 12 miles off shore.

Crow Harbor, 12th September.—An average catch of codfish since July, none taken before then; fish about five miles off shore.

Arichat, 13th September.—Codfish catch above the average; best takes in June and September; fish from two to six miles off shore.

Descousse, 14th September. Bankers have done a fair business, but shore fishing poor, bait being scarce.

Canso, 13th September.—Codfish fair catch; fish from three to six miles off shore, about sixty sail of United States cod fishermen holding licenses baited here.

Port Hood, October.—Codfish fair catch throughout the season and now improving, the fall is, generally speaking, the best time for fishing here. Bait has been scarce lately, and fish lie from one to three miles off shore and are of fair size.

Aspy Bay, 22nd October.—Codfish fair catch the latter part of the season; fish up to five miles off shore, but all large size.

I have, in my cruise, made inquiries as to the success of the license system under the *modus vivendi*, and from what I can learn, the United States bankers were well satisfied with the arrangements, and they would, I think, all take out licenses another year.

I have the honor to be, Sir,

Your obedient servant,

C. M. LORWAY,  
Captain.

## APPENDIX B.

List of United States Seining Vessels fishing in the Gulf of St. Lawrence, 1888.

Name of Vessel.	Port of Registry.	Catch. Barrels.
A. R. Crittenden	Gloucester	40
Andrew Burnham	Boston (no fish at last report)	231
Augusta E. Herrick	do	100
Abbie F. Morris	Gloucester	100
Alice	Provincetown	331
Alice O. Jordan	Gloucester	70
Ada R. Terry	do	86
Anna H. Frye	do	205
Belle A. Nauss	Gloucester	4
Blue Jacket	do	4
Belle Franklin	do	empty.
Canopus	do	300
Carrie W. Babson	do	40
Cora E. Smith	North Haven	40
Caroline Vought	Booth Bay	40
Charles Levi Woodbury	Gloucester	120
Dido	do	170
Ellen Lincoln	Portland	30
Edith Rowe	Gloucester	80
Enola C.	do	30
Elsie M. Smith	Portland	30
Emma W. Brown	Gloucester	160
Farmer R. Walker	do	12
Frank Butler	Provincetown	40
F. H. Smith	North Haven	67
Fannie Belle	Gloucester	110
Frank Rackliff	do	235
George Willard	Portland	empty.
George F. Edmunds	Gloucester	220
Gertie Evelyn	do	120
G. P. Whitman	do	220
Governor Butler	do	80
Gatherer	do	100
Herald of the Morning	do	75
Henrietta	do	60
Harry G. French	do	384
Henry Wilson	do	240
Hattie D. Linell	Provincetown	24
Henry N. Woods	Gloucester	70
H. L. Phillips	do	
I. J. Merritt	do (no report)	40
John L. Nicholson	do	110
James and Ella	do	160
J. E. Garland	do	2



List of United States Seining Vessels fishing in the Gulf of St. Lawrence,  
1888—*Concluded.*

Name of Vessel.	Port of Registry.	Catch. Barrels.
Lizzie W. Hannem	do	80
Leona	do	200
Lizzie D. Barker	Provincetown	50
Lucy M. Dyer	Portland	70
Lizzie M. Centre	Gloucester	655
Lady Elgin	Southport	42
Laura Nelson	Gloucester	100
Lilla B. Fernald	Portland	empty.
Mary Fernald	Gloucester	7
Moro Castle	do	400
Mayflower	do	415
Mabel W. Woolford	do	50
Margie S. Smith	Portland	8
Meliss D. Robbins	do	70
Maud S.	North Haven	empty.
Mathew M. Murray	Gloucester (vessel lost)	
M. L. Wetherell	do	10
Mystery	do	220
Novelty, SS., with steam launch "Bonita,"	Boston	500
Orient	Gloucester	427
Pendragon	do	100
Porter S. Roberts	do	14
Rushlight	do	120
Rapid Transit	do	200
Robin Hood	do	100
Rattler	do	empty.
Roulette	Boston	empty.
Ralph E. Eaton	Gloucester	empty.
Senator Morgan	do	1,005
Sea Foam	North Haven	60
Sarah P. Ayer	Gloucester	70
S. F. Maker	do	360
Sarah C. Pyles	do (no fish at last report)	
Thetis	do	150
Volunteer	do	85
Wm. H. Frye	do	125
W. D. Daisley	do	40
Willie Irving	do	50
Wm. H. Wellington	do	100
Willie G.	Southport	4

Eighty-three vessels, from seven ports, taking 10,423 barrels of mackerel from the waters of the Gulf of St. Lawrence and off the Atlantic coast of Nova Scotia.















